

Rail safety licensing and safety assessment guidelines



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1 Introduction

These guidelines relate to the safety management of railways and tramways in New Zealand and set out the requirements of the government with respect to the public's ever-increasing awareness of transport safety issues and high expectation of the right to remain safe.

The principal legislation applicable is the *Railways Act 2005* and all rail participants should have a copy available to them as these guidelines do not cover all sections of the Act. It is not intended that these guidelines supplant the requirement to be familiar with the content of the legislation – they are to be read in conjunction with it.

As well as licensing rail operators, the *Railways Act 2005* (Railways Act) extends the previous licensing regime to include access providers – those rail participants who provide access to the track (including train control). In addition, other rail participants such as maintenance providers, who may not need to hold their own licence, will be required to have clearly defined roles in terms of their contractual relationship with the licence holder. All licence holders are required to have a safety system with an overarching safety case approved by the regulator, the Director of Land Transport (Chief Executive of Land Transport New Zealand), which will cover all the rail activities of all rail participants with whom they have a contractual relationship. It is important to ensure that all inter-operability issues between the rail participants are covered by the safety case(s) and safety system(s) so that there are no gaps in responsibility or accountability with regards to safety.

The safety case and safety system are required to comply with the Railways Act and should be integrated with the licence holder's overall safety management system, including any provisions necessary to meet the requirements of other legislation, such as the *Health and Safety in Employment Act 1992* (HSE Act).

Licence holders are required to have a good appreciation of the hazards associated with the rail activities for which they are responsible, including contracted services. Through understanding and management of these, they demonstrate that they are able to accept accountability for the risks their operations create.

There are approximately 80 individual licence holders associated with the activities of railways and tramways in New Zealand, each having unique features and risk profiles. The safety management approach of individual operations must be appropriate to the size, nature and objectives of the organisation.



This document has three purposes:

- 1 to provide guidelines for new applicants for licences
- 2 to set out the ongoing responsibilities and accountabilities of licence holders
- 3 to provide guidelines to rail participants for the safety assessment process.

The legislation puts the onus on each rail participant to take all practicable steps to ensure that none of the rail activities for which it is responsible, causes or is likely to cause death or serious injury to individuals.

In defining its policy and designing the applicable legislation, the government has adopted a co-regulatory approach, meaning that the technical and operating standards that form a rail participant's safety system are the responsibility of the rail industry. To gain a licence, each applicant must show, through the submission of a safety case, that they have taken all practicable steps to ensure that all rail activities are safe. Reference needs to be made to the safety system and in particular, comprehensive risk assessment. The risk creators (the rail participants and licence holders) carry the responsibility for safely managing their operations. At the same time, however, the government will maintain its public accountability by continuous monitoring of rail participant performance in achieving their safety objectives. This will be through the monitoring of key performance indicators, accident and incident occurrence data and a comprehensive safety assessment regime. If necessary, the government has the power to intervene and make rules regarding technical and operating standards to ensure safety is maintained across the industry.

Land Transport New Zealand (Land Transport NZ), as the government's nominated rail safety monitoring agency, administers the legislation which requires the application of an integrated safety management system/safety assessment (audit) approach. It is a complete quality systems approach with continuous improvement in rail safety as a goal.

This places Land Transport NZ in a regulatory role which includes approving the minimum requirements for the scope and contents of a safety case and underlying safety system but does not normally require it to set technical or operating standards. Through the management of the safety assessment process Land Transport NZ is required to report on safety performance and notify rail participants of the need for remedial action (to be carried out within a specified timeframe) when necessary. Land Transport NZ will also monitor and report on completion of that remedial action. The responsibility rests firmly with the licence holders to complete the remedial action. If this does not occur Land Transport NZ can direct that the associated rail activities no longer continue.

It is to be noted that for operations on the national rail network, which is owned predominantly by ONTRACK (New Zealand Railways Corporation) with Toll NZ owning track on land it has retained, a comprehensive set of National Rail System Standards (NRSS) have been developed. These standards are a set of high level policy documents that have been approved by Land Transport NZ.

It is expected that the NRSS will be referenced in their safety case by any rail participant seeking a licence to operate on the National Rail System. Those potential licence holders will also need to show that they have a comprehensive safety system which incorporates common access terms and agreements for them to operate on the national network.

ONTRACK is the owner and administrator of these standards through consultation with the industry. The standards are publicly available on the ONTRACK website at <http://www.ontrack.govt.nz>

If the standards need to be amended, ONTRACK will submit a request to Land Transport NZ who will consider and approve any variations to these standards as part of the safety case variation process.

Other requests for variations to individual licence holder's safety cases will need to be submitted to Land Transport NZ by that licence holder.

This guideline document is offered as a support and guide mechanism for those contemplating entry to the railway industry. The requirements of the Railways Act are covered for those that previously held licences under the *Transport Services Licensing Act 1989* and must apply for a new licence. It is also a reference document for current licence holders under the Railways Act to remind them of their ongoing responsibilities, and as a guide to the safety assessment process.

Although different readers (potential operators, existing licence holders, other rail participants etc) will have differing reasons for seeking references from this document, it is recommended that the full document be read by everyone in order to understand the relationships and the accountabilities of the several parties involved. Reference may subsequently be made to sections applicable to the individual parties as required.

The predecessors to this document *Guidelines for rail service licence applicants* published in August 1995 and amended in April 1996 and *Rail safety licensing and audit guidelines* published in February 2000, have now been withdrawn and replaced.

2 Legislation

Railways, tramways and cable cars are required to operate under the Railways Act, which promotes the safety of rail operations, restates and amends law relating to the railway corridor and consolidates legislation relating to railways.

The Railways Act responds to changes in the industry and seeks to ensure that responsibility and accountability for safety is clearly identified for all industry players. Legislation is consolidated in this Act from the previous *Railway Safety and Corridor Management Act 1992* and the parts of the *Land Transport Act 1998* and the *Transport Services Licensing Act 1989* that relate to rail.

The relevant legislation covering occupational safety and health issues covering staff, contractor and volunteer safety in employment is found in the *Health and Safety in Employment Act 1992* (HSE Act). This predominantly focuses on the safety and wellbeing of paid employees and self-employed people but has some application to volunteers depending on the type of organisation they are working for and the type of work they are doing. There is also a duty to ensure that no action or inaction of any person at work harms any other person. These can include visitors to the site or public in the vicinity of the site, for example. Refer to Appendix 5 for further information.

Rail participants need to be aware that they may also be required to comply with provisions of other legislation such as those listed in Appendix 4.

It is essential that all potential and existing rail participants be familiar with the provisions of the above legislation.



3 Principles

3.1 Functions and duties of Land Transport NZ

Land Transport NZ's Rail Regulation Section represents and acts on behalf of the Director of Land Transport NZ and its officials are responsible for:

- exercising control of the approval process for safety cases, variations to safety cases and the granting of licences
- appointment of safety assessors; whether employed in-house or contracted
- monitoring rail participant compliance with approved safety cases through a regular safety assessment process and, where necessary, the conducting of special safety assessments of the whole or part of a rail participant's operations
- formal notification to operators of requirements for improvements to be made and the monitoring of completion of remedial action required after assessment
- when required, requesting and approving a safety improvement plan
- control of compliance with approved safety cases through the imposition of conditions, suspensions, immobilisation of rail vehicles or railway infrastructure, or the revocation of licences
- notification to Transport Accident Investigation Commission (TAIC) of all accidents and significant incidents as soon as practicable after their occurrence.

3.2 Safety case and safety system

All licence holders are required to have a safety system with an overarching safety case which will cover all of the rail activities of all rail participants with whom they have a contractual relationship (for which they are responsible). Inter-operability arrangements with other rail participants must also be covered.

Land Transport NZ is required to approve the safety case of each licence holder. The safety case provides an assurance to Land Transport NZ that the rail participant is able to operate safely, that all key risks are identified and assessed and that control measures are in place to ensure the safety of people and property with a view to continuous improvement of safety performance. The Department of Labour is also consulted before a safety case is approved.

A rail related safety system is a particular application of an integrated safety management system or quality management system which underpins the operations of rail participants. The key idea behind any such system is 'say what you do, do what you say'.

Such systems define standards and procedures consistent with accepted good railway operating practices for the activities being undertaken by a rail participant's organisation, and require assurance of compliance with those standards, practices, and procedures to ensure safe consequences. Internal audits by the rail participant and safety assessments by Land Transport NZ are carried out to ensure compliance with the safety system.

An effective system ensures operational consistency, measures performance and seeks continuous improvement as appropriate.

Useful guidelines and the means for the development of a comprehensive safety system are provided by standards such as *AS/NZS ISO 9000:2000 Quality management systems* or *AS 4292 Railway safety management*.

Rail participants operating on the National Rail System are expected to refer to and adopt the National Rail System Standards administered by ONTRACK. These standards provide policy guidelines for the high level safety system elements, and ensure consistency with the operational practices of ONTRACK and other network users.

A key principle of the safety regime adopted is that:

the organisation which creates the risk carries the responsibility.

A safety case and underpinning safety system define and document the responsibilities, procedures, and realistic standards for a particular operation, with a document control mechanism to ensure all staff and contractors have access to the current information they need to carry out their duties effectively and safely.

An organised formal system of staff training and mastery testing is essential in ensuring safe application of instructions and procedures.

Record keeping is also an important element so that evidence of compliance can be provided.

There is no such thing as a 'universal' safety case or safety system, nor is there necessarily a single suitable arrangement for any given type of rail operation. Rather, there is scope to develop a system that matches the particular features of any individual operation and its organisation.

Guidelines on the safety case and its contents – as required by the Railways Act – are detailed in Appendix 1.

3.3 Safety assessments

Safety assessments are carried out by safety assessors employed or contracted by Land Transport NZ to carry out objective assessments of licence holders' rail activities. Essentially, this is an assessment or audit of safety performance and compliance with the documented and approved safety case and underlying safety system.

Details regarding the requirements for safety assessments covered in the Railways Act are provided in Appendix 3.

Safety assessors will consult with the licence holder and representatives of rail personnel (eg, unions) prior to carrying out safety assessments.

Safety assessors will give rail participants, and representatives of any rail personnel concerned, the opportunity to comment on any proposed assessment report prior to finalising the report.

There are two types of safety assessment covered by the Act:

Ordinary safety assessment

The ordinary safety assessment replaces the previous system that required rail licence holders to be audited regularly by safety auditors. Safety assessors will be appointed by, and employed or contracted directly to, Land Transport NZ, whereas the external auditors were previously contracted by the licence holder.

The ordinary safety assessment process requires review and sampling of compliance with the safety case and safety system resulting in the provision of a report on assessment findings, remedial action required and recommendations. Follow-up monitoring and reporting on remedial action may involve supplementary closure verification assessments or audits (CVA) to confirm that non-compliant conditions have been closed out.

Special safety assessment

Depending on the safety record of a rail participant, it may be necessary to carry out a special safety assessment. This would occur if the Director determined on reasonable grounds that the rail participant's rail activities could cause death or serious injury to individuals, or significant damage to property.

Special safety assessments are in addition to ordinary assessments and are focussed on specific safety issues. Depending on the number of special assessments required in any year, it may be necessary for the Director of Land Transport (the Director) to employ or contract additional qualified safety assessors.

The above are external safety assessments, conducted by Land Transport NZ appointed safety assessors.

Land Transport NZ may also initiate investigations into accidents and incidents, normally through TAIC, or occasionally in its own right, using its nominated resources.

Rail participants must be capable of establishing, implementing, maintaining, regularly reviewing and improving their safety case and safety system. An appropriate way of meeting this requirement is for licence holders to ensure that internal safety assessments or audits are carried out in addition to the external safety assessments. This could involve the use of members of their own staff and of other associated rail participants or contracted auditors. Such internal audits will inform the improvement process and may reveal non-compliance and allow remedial action to be taken prior to exposure to external assessment. The NRSS on audit specifies this in more detail and is expected to be referenced by those using the National Rail System network. Others can refer to that document as a guide.

3.4 Safety improvement plans

If a rail participant fails to take appropriate remedial action as required by Land Transport NZ after safety assessments, the Director may require that the rail participant prepare a safety improvement plan that meets the Director's approval. Once the plan is approved, the rail participant must implement the plan and not amend it without further approval from the Director.

3.5 Rail participants' legal liabilities

Rail participants are legally liable for the safe operation of their activities. If any other party is involved in advising or determining standards, there is an implied liability lying with that third party, and rail participants should be cautious of whom they take advice from.

Rail participants, especially those planning involvement with passenger carrying or other general public activities, are recommended to have public liability insurance for protection against any unforeseen event.

Accountability lies with the risk creator – usually the rail participant.

4 Requirements for licences

4.1 General

The Railways Act requires that a licence must be held by a rail operator, being any person or organisation wishing to operate a rail vehicle, such as a locomotive, railcar, tram, light rail vehicle, hi-rail vehicle, maintenance vehicle, shunting tractor or similar, a monorail (single rail), or an access provider, being any person or organisation that controls the use of a railway line by rail operators. This applies to a railway operating on a single rail or set of rails with a gauge of 550 mm or greater and those with a lesser gauge included by regulation.

Generally, railways with a lesser gauge which are available for public use are considered to be amusement devices and are excluded from requiring a licence under the Railways Act. These amusement device railways are required to have a safety certificate from a registered engineer, have a permit to operate issued by the territorial authority and be registered by the Department of Labour. Cable cars on private land and not carrying fare paying passengers do not require a licence but are considered to be under the jurisdiction of appropriate local authorities. From 31 March 2008, cable cars attached to or servicing a building will require a compliance schedule in accordance with the *Building Act 2004*.

The Director may exempt a person from holding a licence if all the rail activities of that person are covered under the licence of another licence holder, and the approved safety case of that other licence holder.

4.2 Application for a licence

All applications for a licence must be accompanied by a proposed safety case for the approval of Land Transport NZ. The safety case must meet the requirements of the Act which are explained in Appendix 1 attached.

4.3 Appointment of safety assessors

The Act requires that the Director appoint safety assessors. Costs of assessments are recovered from licence holders.

It is suggested that licence holders or applicants should discuss with Land Transport NZ their preference for who the assessors should be. Suitably qualified people will be appointed by the Director, but the rail participant could recommend, for instance, that those already carrying out International Organisation for Standardisation (ISO) audits on the licence holder's operations be used. Likely costs also need to be discussed so that there are no surprises.

Safety assessors may also be involved by Land Transport NZ in the safety case approval process to consider the adequacy and scope of the documentation.

4.4 Risk management

An essential element of the safety case as required by the Railways Act is that it describes the management systems that a rail participant has in place to identify and assess the risks arising from its rail activities and its ability to develop and implement risk control measures.

The safety risks arising and details of the measures to be in place to mitigate those risks must also be described.

Therefore, an understanding of the concepts and practices of risk analysis and risk management is an essential tool in demonstrating and practising a commitment to reducing the risks to within acceptable limits and in providing additional assurance on the safety of their operation.

Further information on risk management is provided in Appendix 1.

4.5 Licence application and fee

Applications for a licence must be made on Land Transport NZ forms which should be completed and sent to Land Transport NZ together with the fees payable and accompanying safety case.

Application fees are shown in Appendix 7.

Application forms are in Appendix 6. Completed photocopies of these forms will be accepted for licence application.

4.6 Safety case requirements

Guidelines on the safety case and its contents – as required by the Railways Act – are detailed in Appendix 1.

Rail participants are required to carry out their activities in compliance with their approved safety case and underlying safety system. They need to keep their safety system up to date, making amendments to reflect changes in their operations and to reflect continuous

improvement initiatives as necessary. Where material change affects the safety case it too must be updated and then referred to Land Transport NZ for approval as a safety case variation.

Changes to the system are to be expected (particularly in the early stages after initial approval), as the system is refined in the light of experience, assessment recommendations and the implementation of requirements for variation of the safety case as notified by Land Transport NZ.

Rail participants have to manage the safety system itself, by replacing or amending documents promptly, ensuring that current information is available to those who need it, ensuring records are maintained and that there is compliance with all safety system requirements.

Amendments are to be clearly identified and fully justified taking into consideration any new or changed hazards and alterations to risk profiles according to management of change procedures which must be clearly described in the safety case.

If safety case variations are required, these should be drafted by the licence holder and sent to Land Transport NZ for consideration as soon as possible. Each time the safety case is revised it is to be submitted to Land Transport NZ for approval.

ONTRACK will forward NRSS variations for approval and all licence holders (who are expected to abide by those standards) will incorporate the changes into their safety case as appropriate.

Typical changes to the operation which would constitute a material change of scope and a change in risk profile requiring a safety case revision to be submitted for Land Transport NZ approval are as follows:

- changes to management team or to organisation structures resulting in significant changes to staff deployment and management/supervisory and/or inspection responsibilities
- new lines, extensions, altered layouts, and abandoned lines
- changes to line operating speeds over all or part of the operation
- any changes to operating procedures or methods requiring significant addition and/or amendment of operating codes
- changes to signalling or train protection rules over part or all of the operation (including any arrangements for work site protection)
- newly proposed motive power changes over full or part routes – steam to diesel, diesel to electric, etc (not changes under existing operating procedures)



- changes to inspection procedures – track inspection frequencies, bridge examination procedures and frequencies, structure inspections, traction overhead inspection, etc
- changes to signalling equipment and rail service vehicle examination and maintenance frequencies, etc
- alterations to structure gauge and loading gauge standards
- alterations to track standards with respect to material specifications, geometric shape, tolerances and installation procedures, etc
- alterations to bridge and structure standards with respect to loadings, material specifications, and clearances
- introduction of new locomotives, electric and diesel units (including second-hand) with respect to axle loadings, braking and coupling systems and requiring additions and/or changes to existing standards and/or operating procedures
- introduction of new, substantially changed rolling stock (including second-hand) with respect to width, length, height, loading capacity, axle loading etc and requiring additions and/or changes to existing mechanical and operating standards and/or operating procedures
- introduction of new (or second-hand) on-track equipment, not classified as locomotives or rolling stock and requiring any additions and/or changes to standards or operating procedures
- changes to inter-operability and interface agreements with other parties – for running rights access.

The above list is not exhaustive but indicates a broad range of possible causes of significant change to the risk profile (better or worse) of an organisation's activities, which would warrant notification to Land Transport NZ. In terms of the safety case, these will require at least an update to the risk management detail provided. Land Transport NZ is not required to approve the detailed underlying safety system documentation, but it needs to be kept informed of what applies for safety assessment purposes.

In the interest of continuous improvement it is important that rail participants conduct regular reviews of the relevance of the content of their safety system in relation to their current operations with a view to removing complexity and superfluous content.

The simpler – the better. Such changes if they result in an update to the safety case must also be notified to Land Transport NZ as a variation.

Note

Land Transport NZ policy concerning the introduction of rail vehicles must be complied with where new rolling stock is to be introduced. A copy of the policy can be found in Appendix 8.

4.7 Response to safety assessments and other safety reports

Safety assessments (as described in section 3.3) will be carried out to an agreed programme. The licence holder must respond to the conditions and recommendations covered in the assessment report following any safety assessment by an appointed assessor. The licence holder must advise how and when the conditions and recommendations will be addressed.

The licence holder must also ensure that action is taken to address problems identified by internal audits, health and safety committees, staff members or through a hazard identification and risk analysis process.

Compliance with the safety case and safety system should not be seen as a chore which requires a rail participant to go through ritual motions at times of safety assessments, but as an active means of ensuring safety and business efficiency.

4.8 Accidents and incidents

4.8.1 Reporting

Under the legislation, the rail operator or access provider concerned must ensure that Land Transport NZ is notified of any accident or incident that occurs on the railway under their management as soon as practicable.

Notification by telephone or facsimile is required as soon as practicable after the occurrence and confirmed in detail on the report forms as shown in Appendix 8.

Land Transport NZ maintains 24-hour call arrangements for the notification of occurrences on railway operations. Details of the emergency call arrangements and contact numbers are shown in Appendix 2.

For occurrences on the national rail network, the requirements of NRSS/5 Occurrence Management are expected to be followed. This means that on the controlled part of the network, the Network Control Manager of ONTRACK will notify Land Transport NZ in the first instance. On operator controlled territory the appropriate representative of the operator will notify Land Transport NZ of the occurrence.

Additionally, rail participants are required to report accidents involving serious harm to any person to the Department of Labour (DOL) as per the requirements the HSE Act. DOL maintains 24-hour call arrangements for the notification of serious harm. Contact information is contained in Appendix 5.

Land Transport NZ will notify TAIC of all accidents and those incidents that Land Transport NZ considers TAIC should investigate as covered by the memorandum of understanding between the organisations.

4.8.2 Investigation

Where an occurrence involves rail related activities, Land Transport NZ may initiate an investigation, but if this involves injury to rail personnel or other people, the NZ Police and DOL may also elect to undertake an investigation. Where practicable, any investigation involving both Land Transport NZ and DOL will be carried out jointly.

TAIC may elect to investigate any accident or incident occurring on rail as notified by Land Transport NZ, particularly where the cause is not clearly established or where it believes there are lessons to be learnt that may have significant implications for transport safety.

TAIC can act on information from any source and has statutory powers of entry which enable investigators right of access into any organisation to conduct investigations. It also has the right to seize documents and equipment, carry out inspections, and interview witnesses and involved parties in order to gather evidence to determine the cause of an occurrence.

TAIC has the power to freeze an accident or incident site which means that, providing all actions have been taken to care for any persons involved, no further recovery action (which may disturb the site or vehicles) may be undertaken until TAIC is satisfied it has all the evidence it needs to determine the cause.

TAIC exists to ensure that the public can be made aware of the causes of significant accidents and incidents, and to recommend action to avoid similar occurrences. Its reports are published and available to the public to ensure transparency. TAIC is normally informed of rail accidents and incidents by Land Transport NZ, but it can receive and act on information from any source.

In cases where TAIC elects not to conduct an investigation, Land Transport NZ may choose to carry out its own investigation using either its own staff or external expert investigators.

Rail participants must report accidents and incidents, and take appropriate corrective and preventative action. Honesty and full cooperation with the investigating bodies is essential for all parties to ensure the necessary lessons are learned and appropriate safety measures taken.

4.9 Annual licence fees

Licence holders are required to pay an annual fee for rail safety monitoring and Land Transport NZ will render an account annually to all licence holders in accordance with the scale of fees as set out in Appendix 7. (Note that a new fees regulation is yet to be established for the Railways Act so the fees included in Appendix 7 are those carried over from the previous regulations that remain in effect.)

Non-payment of any annual fee will not in itself immediately incur revocation of a licence. Land Transport NZ will apply normal debt recovery procedures in respect of any outstanding fees.



5 Sanctions for non-compliance

In situations where the Director considers there is a risk of death or serious injury to individuals or of significant damage to property, the Director has the power to suspend a licence or to impose temporary conditions relating to continued operation under that licence. The Director may revoke a licence or impose permanent conditions if they believe on reasonable grounds that no other action under the Railways Act is appropriate to address a risk of death, serious injury or significant damage to property. These powers are provided under sections 23 and 24, with matters that may be taken into consideration included in section 25.

The Director may amend the licence of a licence holder with their consent and amend or revoke a licence without their consent if a licence holder has stopped any or all of the activities for which the licence was issued. In situations where the Director believes on reasonable grounds that the operation or use of a rail vehicle, class of vehicles or of railway infrastructure may endanger persons and property and prompt action is necessary, they may prohibit operation, impose conditions or immobilise the vehicles or railway infrastructure. Rail vehicles and railway infrastructure may also be detained for the purpose of a prosecution or safety assessment. See section 28 of the Railways Act for the authority to do this.

Sanctions and penalties on summary conviction for failure to comply with basic duties under the Railways Act are contained in subpart 6 of part 2 (sections 61 to 67).

Failure to comply with general safety duties under sections 7, 9, 11, and 12, is covered under section 61, which provides for imprisonment up to 6 months and /or fines of up to \$50,000 for an individual, and fines of up to \$500,000 for a body corporate. Section 7 is the general duty on all rail participants and rail personnel to take all practicable steps to ensure that none of their rail activities will cause or be likely to cause death or serious injury to individuals. Section 9 imposes a duty on every person on or near rail vehicles, infrastructure, or premises to ensure that no individual dies or is seriously injured; or property significantly damaged by their act or omission. This means the general public have safety obligations too. Section 11 is the duty on a licence holder to comply with their licence, safety case and safety system. Section 12 is the duty to comply with instructions of the network controller, unless the person believes on reasonable grounds that compliance would imminently cause an accident or incident.

Section 62 provides for the above level of fines for failure to have the appropriate licence in force for any rail activity required to be licensed under the Railways Act.

Failure to report accidents and incidents known to a rail operator or access provider can incur the penalty in section 63 on summary conviction. While this section also refers to railway premises owners, there is no reference to them in section 13 which creates the basic duty.

Anyone who obstructs a safety assessor or fails to comply with a lawful requirement of an assessor can be prosecuted under section 64. Sections 65 and 66 provide for liability of employers, principals, and directors of bodies corporate for the activities of their employees, agents, contractors or bodies corporate. Under section 67 a district court judge may prohibit or restrict persons from being involved in rail activities.

The Railways Act also includes offences and penalties relating to the protection of the railway corridor. The prohibition of trespass on and interference with railway infrastructure and premises is provided for in section 73 of the Railways Act. This section also authorises rail participants and personnel to impound stock trespassing on the railway. The penalty provision is section 92. There is also provision for regulations to be made specifying infringement offences for the purposes of the Railways Act.



Appendix 1

Safety case, safety system and risk management

A. Safety case guidelines: *Railways Act 2005* (Railways Act)

1 Introduction

The following guidelines are to assist rail participants in the preparation and management of safety cases and safety systems and to clarify the requirements of the Railways Act.

2 Requirements of the Railways Act

Part 2 Safety, subpart 1 covers the duties of rail participants and other persons.

Section 7(1) requires that a rail participant must take all practicable steps on its part to ensure that none of the rail activities for which it is responsible causes, or is likely to cause, the death of, or serious injury to, individuals.

Section 10 requires that rail operators and access providers must hold licences.

Section 15(3) allows some discretion for this in that the Director may, on the conditions that the Director considers appropriate, exempt a person from holding a licence if all the rail activities of that person are covered under:

- a. The licence of another licence holder.
- b. The approved safety case of that other licence holder.

In this respect all licence holders will be required to have a safety system, with an overarching safety case approved by the Director, which will cover all of the rail activities of all rail participants for whom they are responsible. This also includes safety system coverage of all the interface or inter-operability issues that the licence holder has with other licence holders.

Section 21(2)(a) requires that the licence holder has a safety liaison officer who is authorised to act as the licence holder's primary contact with Land Transport NZ in relation to the licence. Section 21(5)(b) requires that the safety liaison officer's contact details must be provided.

Part 2 Safety, subpart 3 of the Railways Act covers safety cases, safety systems, and improvement plans.

Section 29(1) requires that a proposed safety case must accompany an application by a rail participant for a licence.

This approach differs from the previous regime in which a licence was granted on the basis of a rail participant's entire safety system.

Section 29(2)(b) requires that the safety case is derived from, and is consistent with, the rail participant's safety system.

Section 30 describes what a safety case must contain.

3 General comment on safety case

A safety case is the means of demonstrating that an activity or operation will be safe and without undue risks to people or property and that the rail participant has taken all practicable steps to ensure this. The safety case will describe the operations and will include a summary that contains the core of safety arguments with clear references to supporting information. This information may include quality or safety manuals, plans, instructions, legislative requirements, procedures, codes, standards, technical reports, research and development reports and other aspects of the safety system.

It will also be subject to periodic review by the rail participant and the Director to ensure that safety arguments and standards are consistent with current expectations and best practice.

Safety cases which are pitched at too high a level and do not provide a clear linkage between the key risks and the specifications and procedures which control them, are unlikely to be acceptable. Conversely, safety cases are not required to duplicate the detailed content of copious individual company procedures or industry wide standards as this will cause them to become unmanageably large. The level of detail provided should provide an overview of how each key risk is effectively controlled, cross-referencing relevant industry and company standards or procedures (or groups of standards/procedures) as appropriate.

Section 30 describes what a safety case must contain.

Section 31 covers matters to be taken into account by the Director in considering the proposed safety case.

Section 32 covers approval of the safety case and subsection (7) allows the following:

'Despite anything in this section, a rail participant may submit its safety system instead of its safety case to the Director if it considers that its safety system meets the requirements set out in section 30.'

The degree of explanation provided in the safety case should be in line with the scope of the operations undertaken and the extent of the risks. For smaller operations this may well mean that the existing safety system is appropriate to be used as the safety case, provided it adequately covers everything required under section 30 – particularly the management of risk.

The safety case will evolve as the activities to be undertaken, the way they are undertaken or the safety arguments that demonstrate the risk profile is acceptable, change. For example, the risk profile of an operation changes if the number of services is greatly increased or if the operator wishes to increase axle loads or speeds on the track. Another example would be if passenger services were to be run on track that was previously only used for freight.

An application to vary the approved safety case may be required prior to any changes being implemented where those changes are materially different. In that case an executive summary would be useful to provide signposting to where material changes have been made to the safety case since the last approval. The application should describe the plans and arrangements made to modify plant, equipment, infrastructure, procedures, staffing or staff training to bring the changes into effect.

4 Contents of safety case

Licence applicants are to prepare a safety case to be approved by the Director. Once approved the safety case remains a living document that is to be reviewed and updated as necessary with continuous improvement of safety in mind.

Reference to section 30(1) of the Railways Act shows that a safety case must contain a statement or description, as appropriate, of the following:

Note

Each subsection is listed with commentary on what is expected to meet the requirements.

- a. The rail activities of the rail participant, including details of the extent and geographical location of those rail activities.

Applicants should ensure that all rail related activities are described. As appropriate for rail operators or access providers, this should include, but is not limited to, comment on the nature of the operation, the type of motive power, rolling stock and other equipment used, track network and assets employed, train control, signalling and communications systems. A geographical route map or depiction of the railway operation would be a useful aid to enhancing the statement or description. Comment should also be provided about other rail participants that are contracted to provide services to the licence applicant that cover rail activities for which the applicant is responsible. This must include description of those persons seeking exemption under section 15(3) that will be covered by the applicant's licence.

- b. The safety policy and objectives of the rail participant and of how that policy and those objectives will be implemented or given effect.

The safety policy needs to be a concise and easily understood description of the safety beliefs and goals of the organisation that has the involvement and buy-in of all employees and contractors. The statement describing how this policy will be implemented or given effect, needs to show how the policy is deployed through publication, staff training and awareness and management commitment.

- c. The management and organisational arrangements that the rail participant will establish in order to promote the safety of its rail activities.

A description of the rail participant's safety system and how it is put into effect should be provided. Key safety related policies and practices documentation should be clearly signposted with references to other supporting documentation as necessary to adequately describe the basis for the complete safety system.

Management structure, positions, scope, responsibilities, delegations and contractual arrangements need to be described to show that all safety aspects of the rail activities are owned by someone and that there are no gaps in coverage. It is particularly important that management of change is described, when personnel and/or structure are changed, to show that all risks are covered in those situations.

A safety system is a crucial element of a rail participant's quality management system. It is defined in the Railways Act, part 1 Preliminary Provisions, section 4 as:

'safety system, in relation to a rail participant, means a written record of all the rail participant's management and operational policies and practices that relate to the safe conduct of its rail activities; and includes the rail participant's operational and training manuals.'

The safety system may be in hardcopy written material or it may be in electronic form or it may contain some form of audio-visual material such as videos.

A satisfactory document control system must be in place, to ensure that only current versions of the safety system are in use, and this should be described in the safety case.

Useful guidelines and the means for the development of a comprehensive safety system are provided by standards such as *AS/NZS ISO 9000:2000 Quality management systems* (and the earlier 1994 versions of ISO 9001, 9002), *AS 4292 Railway safety management*, or this document.

- d. The management systems that the rail participant has in place to:
 - i. identify and assess the safety risks arising from its rail activities
 - ii. develop and implement safety risk control measures.

The safety case must describe the methodology applied by the rail participant for risk assessment and risk control and how these are covered in the safety system. Reference to standards applied and how they are used within the business should be provided.

- e. The safety risks arising from the rail activities of the rail participant and details of the measures to be in place to mitigate those risks.

The safety case needs to demonstrate that the rail participant has undertaken adequate risk assessment for all operations and has identified the measures which need to be taken to control risks to safety of people and property. The rail participant must show that systems are in place to ensure that those measures will be implemented and maintained. The safety case needs to explain: what the key risks are and how they are assessed, what the rail participant does to manage them, who does it and how and when they do it; how the rail participant knows it is done and how corrective action is taken, and why this is sufficient. This requirement is similar to the hazard management requirements of the HSE Act but specifically relates to the unique risks associated with rail activities.

More detail on risk management is provided in section C of this appendix.

- f. The process for ensuring that inter-operability arrangements between the rail participant and other rail participants enhance rail safety.

Applicants (or licence holders) must show that all processes are defined and managed to ensure the safe management of the various rail activities, particularly where there is interaction between themselves and other rail participants. For example processes for ensuring the safe operation of another rail participant's rolling stock on the applicant's track. This would include ensuring the vehicles are built to compatible standards (for example with continuous air braking), that the staff operating them are trained in the applicable operating rules and that responsibilities for safety are clear and unambiguous.

It is extremely important to ensure that standards are maintained and responsibilities are clear when managing contracted suppliers (as other rail participants). The applicant (or licence holder) has principal accountability for safety of all the activities for which the licence will, or does, apply.

- g. The arrangements that are in place ensure that:
 - i. assets and equipment used are, in safety terms, fit for their purpose
 - ii. safety critical tasks and activities are clearly identified
 - iii. rail personnel carrying out safety-critical tasks and activities have received appropriate training and instruction
 - iv. the competence of rail personnel carrying out safety-critical tasks and activities has been appropriately tested
 - v. working practices and procedures are fit for their purpose.



As already noted, the safety case may consist of a summary that contains the core of safety arguments with clear references to supporting information. This information may include quality or safety manuals, plans, instructions, legislative requirements, procedures, codes, standards, technical reports, research and development reports and other aspects of the safety system.

How assets and equipment are acquired or designed, how they are maintained and inspected to ensure they are, and continue to be, fit for purpose needs to be described to satisfy g(i).

The rail participant must have an underlying safety system that properly covers all safety-related activities. Depending on the extent of that system it needs to be described but not necessarily repeated in the safety case to satisfy g(ii).

To satisfy g(iii), a description of the methodology and principles applied for training and instruction and how this is covered within the safety system should be provided. How many personnel are covered by what training and at what frequency, should be described.

How this is combined with experience required through on-the-job training, and appropriate supervision while learning, should be covered by the safety case.

To satisfy g(iv), the methodology and principles applied for regular testing, safety observation or refresher training of personnel should be described.

To satisfy g(v) a rail participant would need to have in place and be able to describe adequate regular management reviews of working practices and procedures to determine that they remain fit for purpose.

- h. The arrangements for procuring and maintaining evidence to ensure that the measures and processes necessary for safety are working as intended, including (but not limited to):
 - i. the identification of key safety performance factors and measures, including (but not limited to) accidents and incidents
 - ii. the monitoring and recording of, and reporting on (both internally and to the Director), the key safety performance factors and measures, including (but not limited to) accidents and incidents
 - iii. the regular supervision, inspection, monitoring, and audit of the rail participant's safety case, safety system, and licence conditions
 - iv. when required, the provision of evidence to the Director substantiating the matters in subparagraphs (i) to (iii).

To satisfy h(i) and h(ii) above, the safety case must show that the rail participant has systems in place to establish what the key safety performance factors and measures are, how the evidence is gathered, monitored, recorded and reported, and to show that the overall safety system is working as intended.

In addition to h(ii) and h(iv) above, section 21(2)(c) requires that the licence holder must report to the Director those matters that are specified in the licence holder's safety case and any other matters that the Director reasonably considers necessary in the interests of safety.

Depending on the complexity of the rail participant's operations, a memorandum of understanding (MOU) may be established with the Director on agreed reporting requirements for accidents and incidents and other key performance factors and measures and the provision of any supporting evidence.

With respect to h(iii) it is important to show how the safety case and safety system is developed, implemented, monitored and revised. Note section 31(2)(c) of the Act requires that the Director must not approve a proposed safety case unless satisfied that the rail participant is capable of establishing, implementing, maintaining, regularly reviewing, and improving its safety case and safety system. A safety system based on the quality management principle of continuous improvement is therefore essential, not optional.

If, for example, the safety system meets the requirements of AS4292, that should be stated, but the safety case need not contain all the documented clauses necessary to meet the standard as they will be contained in the safety system.

To ensure that the above requirements are met, a rail participant would need to describe the internal audit or assessment regime they have in place in addition to the assessments that will be carried out by the Director. The need for inspection and management review is covered in (g) above.

- i. The process by which, in consultation with the Director, the frequency of ordinary safety assessments under section 37 may be agreed.

The rail participant's safety case should describe what external audit or assessment frequency and coverage is recommended and it may propose a process for varying this frequency for agreement by the Director. It is envisaged, particularly soon after granting of a licence, that ordinary safety assessments would normally be carried out annually.

- j. The arrangements for the rail participant to report concerns about the state or performance of any rail vehicle, rail infrastructure, or railway premises that it considers have implications for the safe operation of the railway to other relevant rail participants.

Rail participants must show in their safety case that they have agreed procedures with the various other rail participants they interact with to cover these issues. This could be covered by having relevant access agreements and inter-operability standards in place that describe how reporting on safety performance issues is carried out between the parties concerned. Generally, if these issues have implications for the safe operation of the railway, they will be an incident or an accident and they must be reported to other parties as detailed in section 13(2) and to the Director as detailed in section 13(3) and section 30(1)(h).

- k. The policies in place to ensure that the rail participant's rail personnel:
 - i. are fit for duty
 - ii. are not suffering impairment or incapacitation as a result of fatigue, illness, medication, drugs, alcohol, or any other factor.

The safety case must describe the policies that the rail participant has and how they are implemented to ensure staff are fit for duty.

- i. The arrangements for ensuring that safety is maintained or continuously improved despite changes in circumstances that may affect the rail participant, its rail personnel, or any person that uses the rail participant's services, including (but not limited to):
 - i. the continuous review of the rail participant's activities to identify potentially significant changes (both internal and external)
 - ii. the review and revision of the rail participant's safety case and safety system, as a whole and in its various parts, to ensure that its safety case and safety system continue to be the most appropriate
 - iii. the identification of the areas of significant risk and the plans that are in place or being developed to reduce those risks.

Proper management of change is required to maintain safety. The safety case needs to include information on how it will be kept up-to-date. The process for updating the safety case and safety system should be part of the review process described within the safety system documentation. The process for the management of risks during times of change must be clearly defined.

Of particular importance for the safety case is for it to be updated with changing circumstances, for example if rail activities or risks change, or if expectations around risk change. If the changes required to the safety case are materially different then the rail participant must apply for approval to vary the safety case under section 33 or the Director may require a variation under section 34.

- m. The arrangements for ensuring that the rail participant consults any representatives of rail personnel (including, but not limited to, unions) with respect to the development and variation of safety systems that affect, or are likely to affect, rail personnel.

The safety case must describe the process for ensuring that representatives of rail personnel are consulted on safety system development and variation. For example this may be done by providing documentation for comment or by attendance at committee meetings where decisions are made. Where material variations are proposed that affect the safety case, the Director must approve those variations and the Director will seek assurance that the consultation process has been followed.

- n. Any other matters that may be prescribed by the rules or that the Director considers appropriate in the interests of safety.

Additional information may need to be submitted as required by the Director and the rail participant needs to ensure that everything specified is provided when the safety case is submitted.

Further to section 30(1) of the Railways Act, reference to section 30(2) shows that:

'A safety case may adopt, by reference and with any necessary modifications, 1 or more parts of another approved safety case.'

Careful consideration would need to be given to using this provision to ensure that unique aspects of an applicant rail participant's operations are not lost in an attempt to use another similar rail participant's safety case as a basis for the applicant's safety case.

In addition section 30(3) states that:

If a provision of an approved safety case is inconsistent with a rule:

1. the rule prevails
2. the rail participant must amend the provision so that it is consistent with the rule.

If and when rules are put in place, rail participants will need to review their safety cases to ensure they are appropriate.



B. Safety system

The safety case will make reference to the underlying safety system. All rail participants must have a comprehensive documented set of policies and procedures covering the full extent of their safety related rail activities which are reviewed regularly with continuous improvement in rail safety as a goal. These policies and procedures make up the safety system. Smaller rail participant organisations with a limited scope of rail activities may be able to be incorporate the safety case and safety system into the same document.

The safety system can be documented using standards such as *AS/NZS ISO 9000:2000 Quality management systems* or *AS4292 Railway safety management* as a guide (**Note** The Railways Act does not require that rail participants are certified to ISO 9000, but that standard, or *AS4292*, are useful as a guideline to ensure that the documented system enables the requirements of the Railways Act to be met.).

Alternatively, it may suit smaller rail participant organisations to use the following guidelines to assist them in documenting their safety system.

Whatever guideline is followed, the safety system must be comprehensive and cover all safety related processes. For all policies and procedures it must fully describe what has to be done, where it is done and how it is done, who has to do it and when they have to do it. The system must also have continuous improvement written into it so that monitoring, review and system updating is covered thoroughly.

Under the Railways Act, Land Transport NZ does not require the safety system documentation to be forwarded for approval provided the safety case is comprehensive in its coverage of the requirements of the Act. However, the safety system will be reviewed and referenced during safety assessments to check appropriateness and compliance. The key point is it is the rail participant's responsibility to ensure their safety system properly covers all aspects of their activities, that the standards applied are appropriate and that it supports the safety case to meet all requirements of the Act.

Those rail participants operating on the national rail system network are also expected to incorporate the NRSS documents and their requirements into their safety system.

Suggested checklist for document preparation

This list shows key issues to be addressed in creating a safety system, many of which will need to be referenced in the safety case. Included are items common to all systems, and others peculiar to particular types of rail activities.

Many rail participants will find they may not need to address all the items listed. For example, most industrial operators will not have tunnels or complex signalling systems.

Conversely, every rail organisation is unique and it is possible that a rail participant may need to address particular issues that are not included in the checklist.

This list is to be used as a guideline only and is not intended to be exhaustive. The paragraph headings are suggestions and not mandatory for universal application to all safety systems.

1 Introduction

Details of the rail participant seeking the licence should:

- include name, location/address, contact details
- include the nature of the proposed rail activities and high level policies, objectives and functions relating to this
- describe how the HSE Act applies to the organisation
- include rail activities to be carried out on nominated site locations
- include organisation type and structure for whole organisation and for site organisation (include an organisation chart)
- include the purpose(s) for which the railway system is to be used
- include a basic outline of the railway system (include site plans etc)
- include access agreements and/or common access terms where applicable
- include details of rolling stock fleet employed
- adopt requirements of NRSS/1 Definitions if operating on the national rail system.

2 Management and organisation

(a) Management

- Key management responsibilities within the overall organisation and for the site(s) covered by the safety system – responsibilities for total railway management and for management of operations, inspection, maintenance, audits, accident and incident reporting and follow-up. Also, responsibilities for staff training, staff competence, contact with other rail participants, setting and reviewing standards, the development and upkeep of the safety system, and document/information control issues.
- Safety policy, the objectives and the deployment of these.

- Meet requirements of NRSS/2 Safety management if operating on the national rail system.
- Nominate a safety liaison officer who is authorised to act as the primary contact with Land Transport NZ.
- Delegations and definition of how the organisation operates in the absence of key personnel.
- Identification of any other resources, such as consultants or contractors who are involved in the activities of the organisation.
- Processes for monitoring and reporting on safety including key performance indicators.
- Management review for continuous improvement.
- Management of change processes including risk management through the change.
- Processes for consultation with rail personnel representatives on safety case, safety system and safety assessment and policies that ensure rail personnel participate in managing health and safety in the workplace.

(b) Personnel training, competence and protection

- Recruitment processes and standards.
- Site safety management plans and procedures to induct rail personnel to all sites.
- Training requirements for initial qualification, safety observations and periodic re-assessment.
- Identify positions for which there are particular medical standards, define those medical standards, how personnel are assessed against them, and at what frequencies. This must include standards for fit for duty and impairment eg, drugs, medication, alcohol, illness and fatigue.
- Identify positions that require specific qualification and experience eg, a design engineer.
- Identify positions with specific training requirements eg, locomotive drivers.
- Specify requirements for personal protective equipment such as high visibility and protective clothing.



(c) Risk management

- Have comprehensive risk management policies in place. Identify the risk management tool(s) used.
- Meet requirements of NRSS/4 Risk management if operating on the national rail system.
- Identify the principal risks associated with the operation (hazard identification).
- Quantify the combination of hazard likelihood and consequence for initial risk screening.
- Processes to assess high level risks in more detail as appropriate.
- Measures required or already in place to control the risks.

(d) Occurrence management

- Have in place appropriate plans for dealing with an emergency (crisis) or other occurrence such as an accident or incident.
- Meet requirements of NRSS/5 Occurrence management and NRSS/10 Crisis management if operating on the national rail system.
- Have adequate evacuation plans.
- Provide clear instructions to all rail personnel who may be involved in initial response, recovery operations, recording, analysing and following up of all accidents and incidents.
- Identify the person in the organisation responsible for contacting Land Transport NZ and DOL to advise of accidents and incidents and the back up person(s) to cover absences of the contact person and detail the policies and procedures they are to follow.
- Describe how the requirements of the HSE Act are met including the notification of serious harm injuries to DOL.

3 Rail operations

(a) Operating limits

- Overall train loads (based on engine power, track gradients and other physical limitations).
- Axle loads (permissible axle loads dictated by track and structures limits).
- Loading gauge and other factors which impose geometrical limits, such as tunnels and over bridges.
- Permitted speeds.
- Permitted/prohibited types of wagons and locomotives.

(b) Network control

Describe:

- train control system(s)
- signalling
- operation of exchange sidings
- communication systems for safe operation
- level crossing management
- control of work and other special trains
- use of non-rail vehicles to move rail vehicles
- engineering work
- road/rail vehicles
- motor trolleys and similar
- management of accidents, incidents and system failures
- safe control of trains when signalling and/or communication equipment is inoperative
- restrictions imposed by limited ventilation in tunnels
- train examinations.

(c) Inter-operability

- Formal agreement on inter-operability between parties.
- Procedures covering operations by other operators over the railway system of the licence holder, and/or operations by the licence holder over other systems. Access agreements and common access terms may describe regular arrangements, but irregular one-off type events that may occur must also have procedures properly defined.

- Specify inter-operability standards and procedures.
- Procedures to ensure that vehicles are safe to run.
- Meet requirements of NRSS/6 Engineering inter-operability and NRSS/7 Rail operations inter-operability if operating on the national rail system.
- Procedures covering the safe operation of interchange sidings (joint operating plans).

(d) Shunting

- Shunting procedures, general safe working practices for shunters and drivers. Remote control operation procedures if applicable.
- Exchange sidings. Safe working of trains for interface between forwarding and receiving operators.

(e) Public safety

- Site safety management plans and procedures to induct visitors to work sites such as workshops.
- Procedures and signage for site access, crowd control and direction of site visitors to safe areas – particularly on 'open' days. Note liaison may be required with local council for events.
- On-board management of passengers (adults and children), including pre-trip briefings to ensure their safety while trains are stationary and in motion.
- Evacuation procedures for open route, in tunnels or on bridges, including route access information and liaison with emergency services (see also Occurrence management on previous page).
- Procedures for the safe management of passengers alighting other than at railway stations eg, for photo stops.

(f) Dangerous goods

- Describe what legislative and other requirements apply to the operations.
- If dangerous goods are transported, identify the hazardous materials and describe how legislative requirements are met.
- Similarly, identify hazardous materials used for the operation or maintenance of the railway and describe how their storage and handling complies with the regulations.

4 Infrastructure

(a) Track and formation

- Standards, (appropriate to the nature of the operations), and procedures for track design, construction, and maintenance.
- Track geometry standards and tolerance, the basis for standards and how the values are determined.
- Inspection requirements and frequencies.
- Material and component requirements including rail ballast sleepers, etc
- Standards for formation design, inspection and maintenance, including drainage issues.
- Procedures to be followed after earthquake activity.
- Procedures for calibration of gauges, instruments, etc, whose accuracy is important.
- Ensure clear documentation.
- Define purchasing specifications/sources for safety critical components and materials.

(b) Bridges and structures

- Identify all safety critical structures on the system, especially bridges.
- Procedures for bridge inspection and maintenance, including frequencies, reporting regime, analysis of results, and use of specialist expertise for inspection and analysis, for example for ultrasound testing.
- Standards for bridge design and loadings.
- Tunnel locations, profiles, and details of inspection regimes.
- Traction and signal masts and any other structures erected close to the railway line.
- Action to be taken following an earthquake.

(c) Signalling and communication systems

- Identify the type(s) of signalling system used and the principles on which it/they are based.
- Procedures and standards for design, construction and/or installation, checking, inspection, testing, commissioning and maintenance.
- Component management.

- Define radio, telephone, and any other forms of communication systems used for train operations, including train end monitors and similar devices, and the inspection and maintenance regimes that apply to these systems.
- The issues of maintaining accurate records and drawings, of responsibility for approving variations to designs, and of responsibility for final testing of new and altered installations are common to all railway engineering disciplines but are particularly critical for signalling.
- Requirements for level crossing warning systems and for other warning systems, such as those installed on industrial systems for doorways etc.
- Risk review and level crossing installation upgrade programme.
- Calibration of meters and instruments whose accuracy is important.



(d) Electric traction systems

- Description of the overhead wiring system, its key features and geometry and the inspection and maintenance regimes which apply to these systems.
- Voltage and frequency.
- Control of traction power and its link to train control.
- Procedures for isolating and earthing traction power in emergencies.
- Procedures which ensure the safety of railway workers and others from electric shock.

5 Mechanical engineering

(a) Rolling stock fleet

- Identify all rail vehicles that form part of the operating fleet (it is helpful to include drawings or photographs of vehicles). Include any road/rail vehicles and road vehicles that are used to move rail vehicles, shunting tractors, etc.
- Procedures for vehicle operation and control.
- Vehicles should be identified by manufacturer, date of manufacture, class, operator's number, permitted speed, and tare and loaded weights. Any limitations peculiar to a given vehicle should also be identified eg, running speed, draw-gear strength.
- Identify lifting arrangements and/or jacking points for each type of vehicle.

(b) Design, construction, inspection and maintenance

- Vehicle design and construction standards, including tyre profiles, draw-gear, passenger vehicle structural strength and impact resistance.
- Details of procedures and standards for periodic, or other, inspection, maintenance, and overhaul regimes.
- Component and materials management.
- Air Brake system, manufacturer(s) and type(s) of equipment, inspection, overhaul and testing regime.
- Air Brake compatibility equipment within the railway and in inter-operability situations.
- Management of pressure vessels including air receivers and reservoirs.
- Procedures for calibration of gauges, meters, tools and instruments whose accuracy is important.
- Steps and handrails, and their provision for safe use by shunters.
- Standards applied to window glass.
- Standards applied for the use of fire retardant/resistant materials.

(c) Locomotives (including trams, railcars, etc)

- Safe working load schedules over sections of railway route.
- Details of safe management of locomotive boilers and pressure vessels. Indicate which legislative and other requirements apply to the fleet and how these requirements will be met.
- Land Transport NZ requires that all pressure vessels be annually examined and certificated by an approved inspector to meet the requirements of HSE (pressure equipment, cranes and passenger ropeways) Regulations 1999 and also the Approved code of practice for boilers.
- For further details see Appendix 5: Summary of the Health and Safety in Employment Act 1992.
- Locomotive headlights, safety lights (illuminating couplers, steps, etc), hazard warning lights and similar.
- Locomotive horns or other audible warning devices.
- Details of safety devices fitted to guard against driver illness or sleep (deadman's handle, vigilance systems, event recorders etc).
- First aid equipment, tools and other emergency equipment to be carried.

(d) Passenger cars

- Braking systems including passenger-operated emergency brakes and any passenger alarm systems.
- Emergency passenger exits, first aid kits and any other emergency equipment or tools carried.
- Number of seats installed.
- Door arrangements, steps for boarding/alighting, inter-car passenger access verandas and platforms and their protective handrails and gates.
- Buffet layout, fittings, and equipment and the protection of staff and passengers from burns and scalds.

- Safety precautions where gas or oil heaters are installed.
- Details of air conditioning equipment installed, including identification of the refrigerant used.
- Electrical safety procedures where medium voltage (eg, 240volt) systems are installed, including the regime for inspection and certification.

(e) Road/rail vehicles and 'road' vehicles used to move rail vehicles

- Identify any road/rail vehicles and procedures for their safe on and off tracking, and for their operation on rail such as safe loading, speeds etc.
- Identify inspection and maintenance procedures.
- Identify any road vehicles, eg, tractors, forklifts, which are used to move rail vehicles.
- Procedures for their safe use.

(f) Service and maintenance vehicles

- Identify any service vehicles eg, rail cranes, ballast wagons, tamping machines, and set out procedures for their safe operation, inspection and maintenance.

Note

Where new rolling stock is to be introduced, the Land Transport NZ policy concerning the introduction of rail vehicles must be complied with. A copy of the policy can be found in Appendix 8.



6 Document control and system review

- Procedures for the control, management and review of the safety system that ensure staff have access to current versions of the information they need, that changes to the safety system are managed effectively, and obsolete information is disposed of appropriately.
- Meet requirements of NRSS/8 Guidelines for document control if operating on the national rail system.
- Procedure for the review of the safety case and subsequent updating to match changes to the safety system.
- Identify those records which form part of the safety system and specify their location, form in which they are to be retained, period of retention, and method of disposal.
- Identify if the safety system is part of an overall wider ranging quality management system.

7 Safety assessment and internal audit

- Procedures for a safety liaison officer to interact with Land Transport NZ over safety case, safety system and safety assessment issues.
- Identify details of any internal audit regimes that are in place, including the person(s) responsible for organising and carrying them out.
- Meet requirements of NRSS/9 Audit if operating on the national rail system.
- Procedures for responding to safety assessment, audit or other review non-compliance conditions and recommendations.

C. Risk management methodology

Principles

Risk is a combination of the probability of an event occurring and the nature of the consequences of that event. Any and all events taking place in the rail environment have an element of risk associated with them. It is a fact of life that an operating railway presents a hazardous environment because there are large moving objects with many moving parts that can potentially come into contact with other moving or stationary objects or people and cause harm. Risk is always with us. Whatever we do there is a chance something will go wrong.

Risk management involves looking at an activity or operation, identifying the hazards and developing or implementing systems and control measures which minimise that risk. The costs of mitigating the risk need to be taken into account as there is no point in investing large sums of money into projects to reduce risk if the resulting benefits do not justify the investment.

In risk management a hazard is a situation or circumstance that has the potential to place a person in danger or cause harm. The risk is the likelihood and consequent harm that will occur. Absolute safety may be impossible to achieve but the management of risk enables judgements to be made on the priorities to be applied to the hazards inherent in an operational railway.

A good way to manage the inherent risks in a railway operation is to carry out a risk analysis of all activities. It should reveal key areas of potential risk (safety critical activities or hazards) and encourage the setting of priorities for preventing or minimising that risk. Risk can be measured as expected values based on a simple formula:

Risk = probability x consequence of the event occurring.

Rail participants must carefully assess the hazards faced by their operation and undertake a thorough risk analysis using sound risk rating criteria. It is important to supply well developed explanations for how they determine the various risk outcomes and rankings for the hazards they need to address.

A hazard is a condition or situation which has the potential to cause one, or a combination of the following:

- harm to a person
- damage to property or environment
- loss of assets
- other increased liabilities.

Importantly, a hazard is not the event itself – it is the condition or situation being present that leads to an event occurring.

The underpinning key to risk management is to eliminate hazards, but if that is not possible, it is to isolate or minimise the effect of that hazard. Therefore, in identifying methods to reduce the risk value, it must be remembered that the priority order for addressing hazards is (1) eliminate, (2) isolate and (3) minimise the hazard. When possible, the action taken should eliminate the hazard so that it is not a factor in the operation. If this is not feasible it should be isolated to reduce its impact. At the very least, if the hazard is to remain within the operation, the risk presented by it must be reduced as low as reasonably practicable.

Once hazards and the unmitigated risk they present have been identified, an assessment of how to reduce the initial risk rating must be carried out. Identification of processes or mitigation measures to bring the initial risk score down to an acceptable level is required. The aim of this risk reduction is for the risk rating to be 'as low as reasonably practicable'. This is referred to as the ALARP principle. This means that the interventions put in place may have costs included as an element in their determination. That is, significant sums of money would not be spent on a safety improvement if it only results in a very small reduction in the risk presented by the particular hazard.

The ALARP principle broadly breaks down risk tolerability into three main categories; intolerable, tolerable and broadly acceptable as shown in the diagram on page 27.

Managing risks

Hazards can be managed with the implementation of control and recovery processes. Controls are the barriers put in place to prevent the hazard impacting on the operation – i.e. they are preventative measures. For example to reduce the likelihood of a derailment, trains could be run at reduced speed. Recovery or defence mechanisms are the processes and procedures that lessen the impact of an event if the control measures have failed to contain the hazard and an event has occurred. As an example, after a derailment there should be well-practised emergency management processes in place to minimise the effect on the operation.

A critical part of risk management is continuous improvement. An organisation's risk register must be reviewed and updated on a regular basis. The frequency of review should be identified as part of the detailed risk assessment process. Over time the risk rating of various hazards will change as better controls are implemented, the nature of the business operation changes or more effective measures are identified to enhance the activities undertaken. Known hazards must be reviewed and any new hazards identified – the risk ratings for all hazards must be reassessed. This helps determine the most significant hazards that need to be addressed at the current point in time. Risk management must be a continually evolving process. It cannot be done once with the expectation that it will remain accurate over time. Safety assessors will be looking for evidence that risk is being regularly reviewed and that appropriate risk mitigation measures are being implemented.

Examples of potential rail related hazards could be as follows (this is not an exhaustive list – a risk rating would be applied to each):

- track defects
- signal failures
- environmental conditions
- driver incapacitation
- rolling stock defect
- safe working breaches
- broken rails
- excessive speed.

Some controls (again not an exhaustive list) that could be implemented to reduce the risk by preventing an event occurring include:

- audit or assessment
- speed restrictions
- monitoring systems
- competent staff
- training and certification
- inspection programmes (infrastructure/rolling stock)
- medical standards.

If the event does occur, the effect can be reduced by putting in place defences (recovery measures) that lessen the impact of the event. For example:

- communication
- emergency response procedures
- train stopping equipment or procedures
- driver training
- train recovery procedures
- incident investigation – to prevent re-occurrence.

Risk management standards

There are a number of risk management tools available. A commonly used and accepted standard is the joint Australian and New Zealand Standard *AS/NZS 4360: Risk management* (AS/NZS 4360). There are other risk management standards and tools available for use and rail participants should not feel constrained in using a particular standard. The key is that the method chosen must be suitably applicable to the particular railway operation. Different standards provide for a variety of processes that may be used in undertaking risk assessment. These include, but are not limited to, the risk matrix (a common method), bow-tie analysis, and probability trees.

AS/NZS 4360 is written in an easy to follow and understand format. It can be purchased with an accompanying guide book that covers the risk assessment process with examples. Contact Standards NZ to purchase a copy of any New Zealand Standard.

Rail participants who wish to undertake activities on the national network are expected to incorporate NRSS documents into their system and abide by them as discussed earlier in these guidelines. NRSS/4 specifically relates to risk management. It sets out the minimum requirements for risk management principles, analysis, assessment, application and review of operations on the national network. All rail participants are encouraged to read that document as it reinforces the information in these guidelines and is good practice for anyone who may seek mainline running rights in the future. It is far easier to have a thorough risk register in place from the outset (ie, in developing your safety case), than to significantly modify the safety case and safety system in the future to meet such requirements.

An example of a 5x5 risk matrix is shown below. The matrix allows for a comparative risk rating to be given to different hazards. It can then be determined which hazards have the highest priority to be addressed. Note that a 4x4 matrix could have been used and that sometimes the definitions given to frequency and consequence vary. Such assumptions must be made clear in the safety case and safety system, explaining why a particular method was chosen, how risk ratings are determined and the relativity or scale of those ratings, as well as outlining the measures taken to reduce the risks.

5x5 risk matrix

Required frequency		Consequence	
1. Negligible	>20 yrs	1. Negligible	No medical treatment required
2. Remote	5-20 yrs	2. Minor	Lost time/minor injury
3. Occasional	1-5 yrs	3. Major	Serious injury
4. Probable	Yearly	4. Critical	Fatality
5. Frequent	>1/year	5. Catastrophic	Multiple fatalities

*Rating of:	
Less than 10	Risk is acceptable.
Between 10 and 16	Risk is tolerable but must act to reduce risk (using ALARP principles).
More than 16	Risk is not tolerable. Immediate action (using ALARP principles) to reduce risk is required.

*Rating is based on the product of frequency x consequence.



The ALARP principle is shown diagrammatically below as detailed in NRSS/4.

This is based on information developed in the UK by the Health and Safety Executive.

ALARP triangle			Fatalities								
			Rail personnel				Public and passengers				
			DPA *	EDPA *	FAR *	EFAR *	DPA *	EDPA *	FAR*	EFAR*	
Intolerable region	Greatest risk	Risk cannot be justified except in extraordinary circumstances									
ALARP or tolerable region		Tolerable only if risk reduction is impractical or if its cost is grossly disproportionate to the improvement gained	1 in 1000	1 in 400	50	125	1 in 10,000	1 in 4000	20	50	
(risk is undertaken only if a benefit is desired)		Tolerable if cost of reduction would exceed the improvement gained	1 in 100,000	1 in 40,000	0.5	1.25	1 in 100,000	1 in 40,000	2	5	
Broadly acceptable region (no need for detailed working to demonstrate ALARP)		Necessary to maintain assurance that risk remains at this level	1 in 1,000,000	1 in 400,000	0.05	0.125	1 in 1,000,000	1 in 400,000	0.2	0.3	
	Negligible risk										

Explanation of diagram:

Fatality rates

Fatalities can be expressed in simple terms as follows:

Fatality accident rate = $\frac{\text{DPA}}{\text{(No. of people exposed)}}$ where DPA = deaths per annum

Equivalent fatality accident rate = $\frac{\text{EDPA}}{\text{(No. of people exposed)}}$

Injuries will be considered as follows:

- 10 serious injuries is equivalent to 1 death
- 200 minor injuries are equivalent to 1 death.

It is often preferable to express these fatality rates in unit measures of fatal accident rate (FAR) and equivalent fatal accident rate (EFAR).

Fatal accident rate (FAR)

The FAR is a measure of how many people would die per 100 million exposure hours. This is approximately the same as saying how many deaths are likely to occur per 1000 people over their entire working lives. It assumes an average of working 2000 hours a year, and a working life of 50 years.

FARs vary significantly throughout a passenger trip or working day. Therefore, an average rate of exposure is used.

$$\text{FAR} = \frac{(100,000,000 \times \text{DPA})}{(\text{No. of people exposed}) \times (\text{Hours exposed p.a.})} \quad \text{DPA} = \text{deaths per annum}$$

Equivalent fatal accident rate (EFAR)

Injuries will be considered as if 10 serious injuries are equivalent to a death, and 200 minor injuries are equivalent to a death.

Therefore, equivalent deaths per annum (EDPA):

$$\text{EDPA} = \text{DPA} + \left(\frac{\text{serious injuries p.a.}}{10} \right) + \left(\frac{\text{minor injuries p.a.}}{200} \right)$$

Then equivalent fatal accident rate (EFAR):

$$\text{EFAR} = \frac{(100,000,000 \times \text{EDPA})}{(\text{No. of people exposed}) \times (\text{Hours exposed p.a.})}$$

Often the DPA or EDPA will have to be assessed statistically eg, one death may be expected every 20 years giving a likelihood of 0.05 deaths p.a. Where no detailed information (such as accident history) is available, consideration of any industry-wide information may assist.

Upper and lower bounds for risk

The upper and lower bounds for risk relate to an individual's exposure, ie how likely is one individual to die in one year.

This is equivalent to the total number of deaths per annum divided by the number of people in the exposed population.

The upper and lower bounds for risk are given in the table below:

	Fatalities per annum		Equivalent fatalities per annum	
	Upper bound	Lower bound	Upper bound	Lower bound
Rail personnel	1 in 1000	1 in 1,000,000	1 in 400	1 in 400,000
Passengers and public*	1 in 10,000	1 in 1,000,000	1 in 4000	1 in 400,000

*Excludes illegal acts

Risk above the upper bound is intolerable and must be dealt with immediately and can involve temporarily ceasing an activity until improvements can be made.

Risk within the upper and lower bounds is tolerable, but should be 'reduced at reasonable cost'. These risks should be subject to cost/benefit calculations to determine the value of undertaking risk mitigation steps. Fatalities and serious injuries are costed using statistical 'avoided deaths and injuries' criteria based on 'willingness to pay' research.

Risk less than the lower bound is considered acceptable.

Appendix 2

Accidents and incidents

Procedures for notification of accidents and incidents

It is a requirement under section 13(3) of the Railways Act, that the rail operator or access provider concerned must ensure, as soon as practicable, that Land Transport NZ is notified of any accident or incident and provided with information about the occurrence as required.

Under section 13(4) of the Railways Act, Land Transport NZ must notify TAIC of any accidents of which it has been advised and of incidents which Land Transport NZ considers should be investigated by TAIC.

Land Transport NZ may inform DOL of any accident involving serious harm (as defined in the HSE Act), or of any hazard at a rail participant's site which people were exposed to. This does not absolve the rail participant from their reporting responsibilities to DOL as required by the HSE Act.

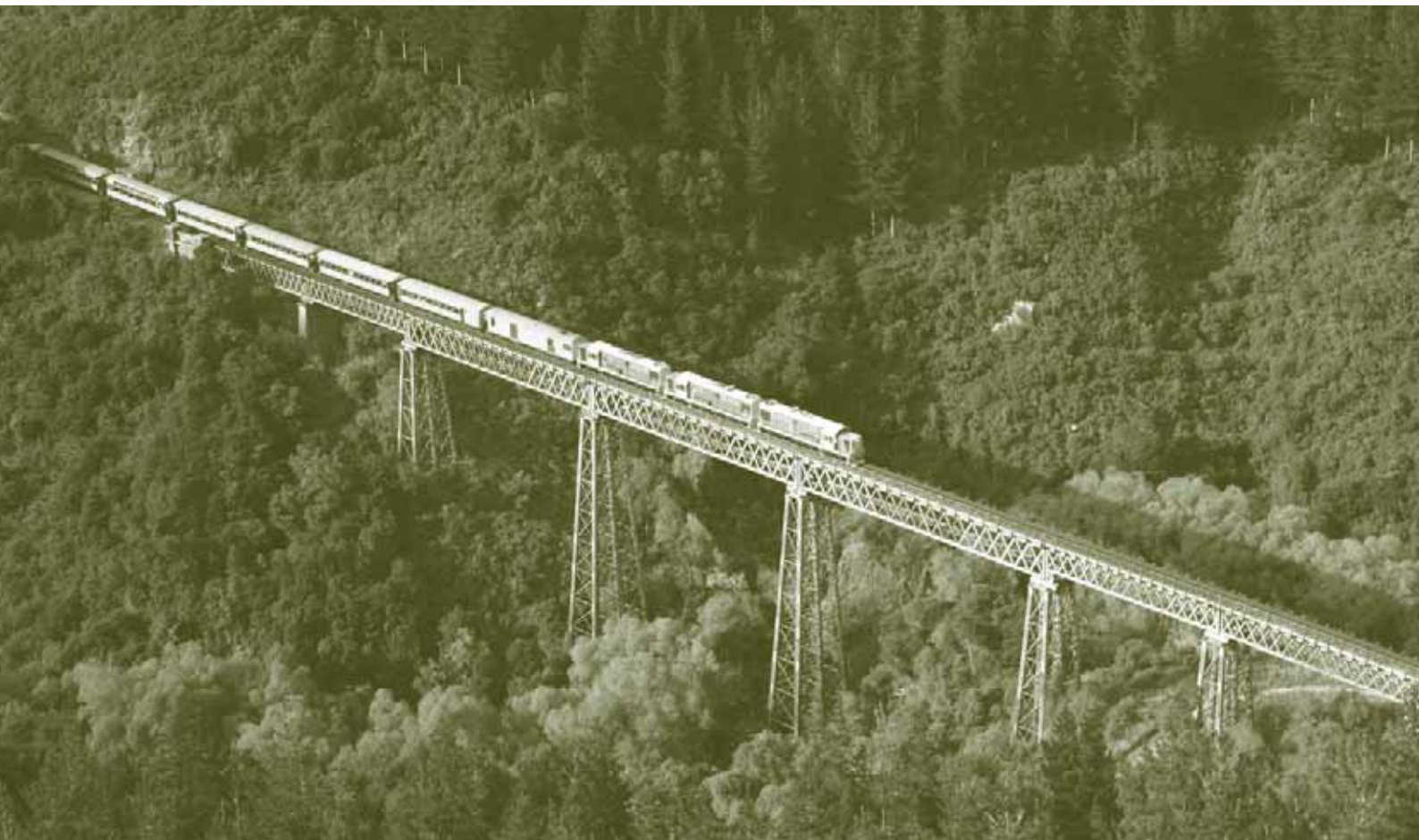
Land Transport NZ will advise rail participants when any accident or incident is notified to TAIC and when any accident is reported to DOL.

In the event of a rail related accident resulting in death or serious injury to people, the Police and emergency services will be involved as appropriate. Land Transport NZ's response, acting on behalf of the New Zealand government, to such an event and subsequent investigation, is set out in the Land Transport NZ document *Emergency preparedness and response* published in August 1999. Copies were supplied to licence holders and emergency service organisations at the time of publication. Additional copies may be obtained from Land Transport NZ on request.

All accidents and incidents are required to be reported to Land Transport NZ. The urgency with which Land Transport NZ requests that it be notified depends on the severity of the occurrence and are set out below along with the contact details for notification.

Accidents and significant incidents to be notified immediately

As soon as practicable (aim for within two hours), rail participants shall verbally (or by text message or by other agreed means) notify Land Transport NZ of all accidents (where death or serious injury to individuals or significant damage to property results).



Land Transport NZ must also be notified of other significant incidents as follows:

- Collisions:
 - between rail vehicles (RV)
 - between RV and a road vehicle carrying fare paying passengers
 - between RV and a person
 - between RV and significant obstacles during movements
 - involving RV and resulting in the significant release of dangerous goods.
- Derailments:
 - of running trains
 - of other RVs, when the consequence involves the public, third party lineside land/property or public roads.
- Significant operating rule irregularities including track protection irregularities.
- Fallen loads involving the public, third party lineside land/property or public roads.
- RV component failure involving significant risk to a person.
- Explosions, fire or significant fumes on an RV involving significant risk to a person.
- Significant occurrences likely to attract media attention or in which the rail participant thinks Land Transport NZ would have an immediate interest.

Accidents and incidents which are to be reported by the following day

All accidents and incidents are required to be reported to Land Transport NZ. Immediate notifications (as detailed above) need to be followed up in writing. In addition, all other incidents must be notified as well. This can be by facsimile, email or other agreed method – Land Transport NZ requires written notification to be received by 12 noon on the next working day following the occurrence.

The following lists the occurrences that must be notified. The list is not exhaustive and rail participants are expected to take a proactive approach to reporting other occurrences, where the risk is judged to be similar to the incidents shown below.

Land Transport NZ is to be notified of all accidents (where death or serious injury to individuals or significant damage to property results).

Land Transport NZ must also be notified about the following incidents:

- Collisions:
 - between RVs
 - between RV and a vehicle on a level crossing
 - between RV and a person
 - between RV and significant obstacles
 - between RV and shifted load
 - involving RV resulting in the significant release of dangerous goods.
- Derailments:
 - of running trains
 - of other RVs, when the consequences involve the public, third party lineside land/property or public roads
 - of RVs in yards and sidings when a person or persons is placed at significant risk
 - of RVs other than running trains (eg, hi-rail vehicles), when travelling on the main line.
- RV component failure involving:
 - wrongside door, safety barrier, brake or bogie failures on running trains
 - partings on passenger trains.
- Significant explosions, fire or fumes on running trains, excluding minor brake grid fires.
- Significant release of dangerous goods into the environment from an RV.
- Significant safety-critical irregularity in overhead traction or power supplies involving an RV.
- Loading irregularities of fallen or shifted (outside the loading gauge) loads.

- Signalling system or crossing alarm failure that could reasonably place a person or persons at significant risk.
- Signals passed at danger (SPAD) due to reversions.
- All other SPADs except instances of minor misjudgement.
- Alleged or confirmed operating rules breaches involving:
 - track protection irregularities
 - failure to secure brakes allowing rolling stock runaway
 - incapacitation (eg, by alcohol or drugs), of critical safety staff whilst on duty
 - significant safe working irregularities eg, track warrant control
 - significant telecommunications or radio failures.
- Persons (including trespassers) who:
 - fall from an RV
 - fall between an RV and station platform
 - fall while embarking or alighting from an RV
 - are caught in a train door in circumstances involving significant risk.
- Vandalism or wilful interference which could reasonably place a person at significant risk eg:
 - stones/objects thrown at a train
 - obstruction deliberately placed on track
 - interference with signalling or communication equipment
 - interference with level crossing protection equipment
 - interference with fixed infrastructure including track
 - unauthorised external riding of trains.

Contacting Land Transport NZ

Immediate notification

24 hours per day 7 days per week.

By telephone to Land Transport NZ emergency number: **04 499 1858** (or to agreed text message distribution list).

After hours when the office is unattended the phone will divert to a message service so stay on the line until it is answered.

Facsimile notification

Photocopy the *Rail accident and incident notification form* – and send it by facsimile as soon as possible after the occurrence, and no later than 12 noon on the next working day after the occurrence, to: **04 931 8704** (or to agreed email addresses).

This advice should confirm any details that may have been previously given verbally and should give all the information available to date. Where complete details of the occurrence are not yet available, additional reports should be made to Land Transport NZ as more information becomes available.

The initial report will have a significant effect on whether a TAIC investigation is initiated.

Information exchange

In its capacity as 'observer' to the Australian Railway Safety Regulators Panel, Land Transport NZ may provide statistics in an agreed format to the requirements of *AS 4292 Railway safety management*, for information exchange. This information may be used for the purposes of comparison and benchmarking, it will be kept confidential to the regulators and railways concerned and not released to the public unless the rail participant's permission to disclose is first obtained and requirements of the *Official Information Act 1982* are taken into account.

Accident and incident notification and report form

The form attached on the next page – *Rail accident and incident notification form* – is to be completed in the event of any accident or incident notifiable to Land Transport NZ.



Instructions regarding the procedure to notify Land Transport New Zealand and the submission of this notification are detailed on the third page of this form.

Name of rail operator/access provider	
Name of contact person	
Contact number	
Type of rail vehicle/ infrastructure/premises involved	
Date and time of accident/ incident	
Location of accident/incident	
Is the accident/incident at a level crossing?	

Fatalities/injuries/significant property damage

Are there any fatalities?	<input type="text"/>	If yes how many?	<input type="text"/>	Is there significant property damage?	<input type="text"/>
Are there any serious injuries?	<input type="text"/>	If yes how many?	<input type="text"/>	Is it a significant incident?	<input type="text"/>

If the answer to any of these questions is yes then you are required to contact Land Transport NZ within two hours of the occurrence.



Instructions regarding the procedure to notify Land Transport New Zealand and the submission of this notification are detailed on the third page of this form.

Description of accident/incident

Note: Please attach photographs, diagrams, witness statements, etc. as applicable.

Remedial measure proposed or
already completed



Rail accident and incident notification reporting instructions:

Who to notify	Rail Regulatory Section, Land Transport NZ
Land Transport NZ rail contact number	(04) 499 1858 this is a 7 day, 24 hour number.
What to notify	<p>1 Accident: means an occurrence associated with the operation of a rail vehicle or the use of railway infrastructure or railway premises that causes:</p> <ul style="list-style-type: none"> a. death, or serious injury to, individuals b. significant damage to property. <p>2 Incident: means an occurrence, other than an accident, that is associated with the operation of a rail vehicle or the use of railway infrastructure or railway premises that placed or could have placed:</p> <ul style="list-style-type: none"> a. a person at risk of death or serious injury b. property at risk of serious damage. <p><i>These are the definitions in accordance with the Railways Act 2005</i></p>
When to notify	<p>Use the phone number (above) to notify of accidents and significant incidents within two hours of occurrence – then confirm by completing and sending this form by 12 noon of the next working day.</p> <p>Other incidents are to be notified by 12 noon of the next working day (following their occurrence) by completing and sending this form.</p>
When completed, this form is to be sent to	<p>Rail Regulatory Section, Land Transport NZ Postal Address: PO Box 2840 Wellington</p> <p>Email: RailRegulation@landtransport.govt.nz Fax no: (04) 931 8704</p> <p><i>An electronic version of this form is available on the Land Transport NZ web site: www.landtransport.govt.nz</i></p>

If you are unsure what to do after an accident or incident please phone emergency services as applicable then contact the above number (04) 499 1858. In some circumstances you may be required to wait for the arrival of accident inspectors before clearing the accident site.

Appendix 3

Safety assessment

A. Safety assessment guidelines: *Railways Act 2005* requirements

1 Introduction

All safety assessments will be carried out by Land Transport NZ appointed safety assessors. Details regarding safety assessment requirements as covered in the Railways Act are provided in the guidelines below. Reference is also made to the audit standard *AS/NZS ISO 19011:2003 Guidelines for quality and/or environmental management systems auditing* and a flow chart is included to show how to manage the assessment process.

Section B below describes the Land Transport NZ '14 point plan' for safety assessment which suggests a minimum scope to be included in safety assessment reports. The application of this plan can be tailored to suit particular rail participant organisations as appropriate.

The guidelines are intended to assist in the preparation and management of safety assessments and to clarify the requirements of the Railways Act with references to sections in the Act.

The previous system required rail licence holders to be audited regularly – this was generally carried out annually. The Railways Act replaces this requirement with an expanded audit function now known as a safety assessment.

Safety assessments confirm whether or not rail licence holders operate in accordance with their approved safety case and supporting safety system. Safety assessments are carried out by Land Transport NZ or its appointed representative with the costs being passed on to rail participants.

The objectives, scope and criteria to be applied for each safety assessment will be determined before any assessment is carried out. Previous assessment conditions, accident and incident records and input from consultation with the licence holders management and staff representatives will be considered as part of the assessment planning.

An assessment can include comprehensive audit, spot checks, investigations or discussions with staff and should take into account trend analysis of incident and accident reporting. There are two sorts of safety assessment – an ordinary assessment which is undertaken routinely for continued assurance and a *special assessment* which looks at a particular circumstance.

To ensure adequate coverage, sampling should occur across an organisation from top to bottom. For smaller organisations this may mean the whole operation can be assessed during an ordinary assessment. For larger organisations a satisfactory sampling cycle needs to be determined.

A good safety record over time could mean that the interval between ordinary assessments may be extended (for example, to 18 months or two years) or the opposite may apply if the safety record is in question. This provides an incentive for rail licence holders to maintain a good safety record and will reduce their ongoing regulatory costs. The process for agreeing this with Land Transport NZ will be as described in the licence holder's safety case.

2 General requirements of the *Railways Act 2005*

The following describes the general requirements of the Railways Act in relation to safety assessments.

Part 2 Safety, subpart 4 covers safety assessments.

Section 37 provides that the Director may require a rail participant to undergo an ordinary or special safety assessment and sets out the requirements for that process.

The timing of an ordinary safety assessment will be based on what is detailed in the rail participant's safety case, what is agreed to by the Director when approving the safety case, or any variations to the safety case.

A safety assessment must be carried out by a safety assessor who is independent of the rail participant being assessed.

Section 38 requires safety assessors to consult with rail participants (company) and representatives of rail personnel (employees) before completing a safety assessment and to provide them with an opportunity to comment on the safety assessor's proposed report.

Section 39 requires safety assessors to submit written reports of their safety assessments to the Director, to the rail participant and the representatives of the rail personnel consulted for the assessment.

Section 40 specifies the matters that must be covered in a safety assessment report, including identifying any non-compliances and making recommendations or suggestions.

Section 41 provides that Land Transport NZ is responsible for paying the costs of safety assessments, which it may recover from the rail participant.

Section 42 provides that the Director must inform the relevant rail participants whether (or not) remedial action is required after receiving the safety assessment report.

Section 43 requires safety assessors to provide the Director with reports on whether (or not) any required remedial action has been satisfactorily completed. This could be in the form of a closure verification assessment (CVA).

Section 44 allows the Director to extend the time by which remedial action must be undertaken in certain circumstances.

Section 45 provides for the appointment of safety assessors. Safety assessors are required to have suitable training, knowledge, expertise and experience to carry out any safety assessment to which their appointment relates.

Section 46 sets out the functions and duties of safety assessors including carrying out the assessments, preparing reports and identifying non-compliances.

Section 47 sets out the powers of safety assessors to obtain information from rail participants. Safety assessors are able to obtain any relevant information that they require to carry out the assessment, such as detailed procedures that form part of the safety system. During the assessment safety assessors can require that the appropriate rail personnel are able to demonstrate familiarity with procedures and that they are able to carry them out competently.

Section 48 sets out the powers of entry for safety assessors. A safety assessor has the right of access (at any reasonable time) to documents, infrastructure or equipment, and to rail personnel.

3 Safety assessors

3.1 Appointment of safety assessors – qualifications and experience

Section 45 covers the appointment of safety assessors as follows:

1. The Director may appoint one or more persons as safety assessors.
2. An appointment as a safety assessor may be:
 - a. a general appointment that authorises the appointed person to carry out any safety assessment that may be required
 - b. a specific appointment that applies to any one or more specified rail participants.
3. An appointment as a safety assessor may state particular matters that the appointed person is to consider or assess.
4. Before appointing a person as a safety assessor, the Director must be satisfied that the person has the training, knowledge, expertise, and experience to carry out any safety assessment to which that person's appointment relates.

Land Transport NZ will ensure that safety assessors are employed or contracted with the appropriate skills, or will ensure that people with appropriate background experience are trained and qualified as safety assessors.

In the first instance, people will be appointed who have been trained and are qualified as lead auditors for application of quality management systems standards. That is, they will hold a certificate in auditing issued by a RABQSA International (formerly Quality Society of Australasia) approved training provider (refer www.rabqsa.com). They must also be competent to probe the safety system in the proposed assessment area, or be accompanied by a suitably qualified technical expert. A strong background in rail safety auditing or rail safety management and operations is desirable. Preferably, they will have experience carrying out assessments or audits using *AS/NZS ISO 19011:2003 Guidelines for quality and/or environmental management systems auditing*.

Safety assessors are required to demonstrate high professional and ethical standards, and must not disclose information obtained in their role as safety assessor other than to Land Transport NZ or the rail participant, rail personnel and their representatives concerned, who are consulted through the formal assessment process.

They must have good knowledge of the application of legislation and administrative procedures relevant to the assessment task. A sound knowledge of the principles and practices of safety cases, safety systems and audit processes (including knowledge of the principles of quality assurance and continuous improvement) is required.

The ability to maintain a cordial and positive relationship with the various parties involved is important. Good working relationships between rail participants and assessors are helpful and will be encouraged. However, assessors must remain independent, objective and unbiased.

While trained lead auditors are competent to assess operations against documented standards, it is unlikely they will have detailed knowledge of all areas due to the complexity and variety of railway operations. Land Transport NZ will ensure that it employs or contracts sufficient personnel with the technical skills and experience to assist in covering all areas of operations that will be assessed. For the larger railway operations, it is likely that an assessment team may be formed to ensure there is satisfactory coverage in expertise and resource to satisfactorily carry out the assessment.

It is worth noting that for audits of the large rail participant businesses (Toll NZ, ONTRACK and Connex) under the *Transport Services Licensing Act 1989*, union officials (as representatives of rail personnel) were invited to attend the audits as observers, in addition to being consulted prior to the audit being carried out. This practice should continue with assessments carried out under the Railways Act.

3.2 Role of safety assessors

Section 46 sets out the functions and duties of safety assessors as follows:

Unless the Director otherwise directs, the functions and duties of safety assessors are as follows:

1. Carry out safety assessments as required by the Director.
2. Prepare reports in accordance with sections 39 and 43.

3. Identify and report non-compliance with the duties specified in sections 7, and 10 to 13, or any rules or regulations.
4. Perform any other functions and duties that may be prescribed by regulations or rules made under this Act.

Safety assessors must carry out comprehensive ordinary assessments based on sound audit principles to identify any non-compliance by rail participants so that safety issues can be remedied and safety performance improved. Ordinary assessment plans and the assessment cycle should ensure thorough routine sampling of all areas of the rail participant's business. This should have coverage across the business from top to bottom through the organisational chain covering all processes, including the interactions with other rail participants.

Of those sections listed under (3) above for compliance by rail participants, section 11 requires particular attention as it covers the duty to comply with licences, safety cases and safety systems. A rail participant's safety system must cover all aspects of their operation in relation to safety. The duty of the safety assessor is to determine that the safety system does in fact adequately cover all the rail participant's operations and inter-operability interfaces, that the safety system is appropriate and that the rail participant is ensuring compliance with all of its own safety system.

3.3 Powers and authority of safety assessors

Sections 47 and 48 give safety assessors wide ranging powers to ensure that they have access to rail participants' information, equipment and facilities to ensure that comprehensive assessments can be carried out appropriately.

Safety assessors carry out assessments in the field and interact with rail participants' rail personnel and are therefore required to carry out their duties with due care and respect and demonstrate high professional and ethical standards. The ability to maintain a cordial and positive relationship with the various parties involved is important and they must abide by the rail participant's safety system as it applies to themselves while on or about the rail participant's operations.

It is expected that maintaining professional relationships with rail participants will ensure safety assessments can be carried out in a cooperative, efficient and effective manner. This is ultimately beneficial to all concerned in that it helps to ensure the safety of rail activities.

4 Safety assessments

4.1 Types of safety assessments

Section 37 of the Railways Act allows for two types of assessment – an ordinary safety assessment or a special safety assessment.

The ordinary safety assessment replaces the previous system that required rail licence holders to be audited regularly (generally carried out annually). The frequency of ordinary safety assessments is agreed between the Director and the licence holder according to the process described in the safety case as per section 30(1)(i).



The Director will consider tailoring the assessment programme to match the nature and extent of the rail participant's rail activities taking into account their safety record, but initially it is expected that an annual assessment programme will apply. Safety assessors will be responsible for ensuring that they plan their work to comprehensively assess all rail licence holders operations on a routine annualised programme basis. This may initially require all licence holders to be assessed in the first year to establish a baseline, but in later years it may not be necessary to cover all licence holders in the same year. Those with a good safety record may only need assessment every 18 months or two years. Alternatively, the scope of the assessment could vary so that the annual assessments look at one part of a business (in a cycle) with the whole business being covered every two years. This is an example of an approach that could be applied to larger operations that are maintaining a good safety record.

Depending on the safety record of a rail participant, under section 37(2) it may be necessary to carry out a special safety assessment. This occurs if the Director determines (on reasonable grounds) that the rail participant's rail activities could cause death or serious injury to individuals or significant damage to property.

Special safety assessments are focussed assessments (in addition to ordinary assessments), that address specific safety issues. Depending on the number of special assessments required in any year, it may be necessary for the Director to employ or contract additional qualified safety assessors.

4.2 Carrying out safety assessments

Safety assessments must be carried out in a professional, systematic and comprehensive way. Australian/New Zealand standard *AS/NZS ISO 19011:2003, Guidelines for quality and/or environmental management systems auditing*, will be referred to as the basis for safety assessments carried out by Land Transport NZ.



The standard is not repeated here but a process flow chart for conducting an ordinary safety assessment can be found on page 41. It is worth noting that the standard provides guidance on the principles of auditing, managing audit programmes, conducting quality or environmental management systems audits (of which safety systems are a significant part). In addition the standard provides guidance on the competence of quality and environmental management systems auditors, a role undertaken by Land Transport NZ safety assessors.

Safety assessors are required to initiate the assessment with the rail participant concerned (being the auditee). In addition the Act is explicit, under section 38, that the safety assessor must consult the representatives of rail personnel before completing a safety assessment. As noted above for the previous audits of the large rail participant businesses (Toll NZ, NZRC and Connex), union officials (as representatives of rail personnel) were invited to attend the audits as observers, in addition to being consulted prior to the audit being carried out. This practice should continue with the assessments carried out under the Railways Act, as their input is very useful.

A document review should be carried out before any audit or assessment to ensure it conforms with audit criteria and with the existing approval of the safety case. This should include review of previous audit or assessment reports that have been produced. If documentation is found to be inadequate, this needs to be resolved with the rail participant before the assessment can be properly conducted.

If there are urgent safety concerns that have prompted a special assessment and the rail participant's safety system documentation is inadequate, the assessment may have to continue by applying relevant industry standards to assess safety compliance.

The assessment or audit process is detailed in the standard and must be followed, but of particular note to safety assessors is clause 6.5.4 *Collecting and verifying information* of the standard. This states that methods to collect information include interviews, observation of activities and review of documents.

The observation of activities should include the surrounding work environment and conditions, and it should verify that what is happening in practice is in compliance with what is expected according to the safety system documentation. If not, then the outputs are not in compliance with the approved safety case or the Act.

Reports should be obtained and interviews conducted as appropriate with customers, supplier groups and other involved rail participants, to verify the performance of the rail participant under assessment. With the fragmentation of the rail industry in New Zealand this will be more important in terms of verifying contractual and inter-operability arrangements and the ongoing compliance with safety standards.

The assessment should be completed with a closing meeting between the assessment team, including observers and the rail participant.

The overall objective of the ordinary safety assessment process is to verify that there is compliance with the licence holders documented safety case and underlying safety system and that it covers all safety-related issues in an acceptable way.

An assessment is not an inspection though an assessor may attend sample inspections as part of observing compliance with the defined procedures. For example, it is not the assessor's role to inspect track but rather to ensure that the track is being inspected at the specified intervals by a specified person following defined procedures, and that the inspector is satisfied it meets the specified standards set out in the safety system. Where these criteria are not met, the assessor is required to note non-compliances, and the actions to be taken to ensure any deficiencies identified are remedied in a timely manner.

The task of the safety assessor is to judge that a sound and appropriate safety system is established and to monitor on a continuing basis that the standards within that system remain appropriate and that compliance with the system is maintained.

It is not the assessor's role to approve standards but to verify that a credible process (using people whose competence in the particular discipline can be demonstrated) has been followed to produce standards appropriate to the particular operation.

If an assessor finds a dangerous situation that requires immediate action, this should be raised directly with the rail participant at the time and noted as part of the report.

Rail participants should have their own internal audit, assessment or review system in place. Safety assessors must consider previous internal and external assessment reports at the time of assessment to confirm closure of previous conditions or to target the assessment to give issues special attention.

The Railways Act allows for safety assessors to make recommendations or suggestions to improve the safety of a rail participant's rail activities. Assessors will be encouraged to do this through informed dialogue with the rail participant at the time of assessment to ensure that appropriate recommendations are included in the assessment report. The rail participant will need to respond formally as to whether or not they accept or reject the recommendations and advise what action will be taken to correct non-compliances.

4.3 Safety assessment reporting

The Act requires under section 39 that safety assessors must submit a written report to the Director, the rail participant and the representatives of rail personnel that were consulted. The report must cover the matters set out in section 40. Section 40 covers the requirements to report on matters as determined by the Director on appointment as per section 45. This includes any non-compliance with the approved safety case and safety system and also any comments made by employee representatives as a result of consultation with them. The safety assessor may also include in the report any recommendations or suggestions to improve the safety of the rail activities that are considered necessary.

Assessors must also comment on issues that may have implications for other rail participants (particularly if inter-operability issues are relevant), and should be highlighted for liaison to be achieved through Land Transport NZ as necessary.

If through the assessment process, changes in scope, scale, or nature of an operation are identified, or an assessor recognises superfluous or irrelevant references in the rail participant's safety system, the assessor may make a recommendation that the safety system be updated. If this results in the need to update the safety case, the variation must be referred to Land Transport NZ for approval.

It is good practice to provide a draft report to allow those consulted to comment on any factual errors or omissions that need correcting in the report before it is published. This is covered in the Act under section 38(2) where those consulted must be given the opportunity to comment on the proposed report.

Under section 42, the Director must give written notice to the rail participant as to whether a report indicates remedial action is required or not. If remedial action is required, the Director will explain what must be done, by when, and whether any interim conditions are imposed. This could include the need for a variation to the approved safety case. The reports will generally list non-compliances or conditions and response dates will be notified.

The rail participant, on receiving the report, will be asked to respond with detail on the action that will, or is already being taken to clear the non-compliances and in what time frame.

Under section 43, the safety assessor must provide the Director with a report on whether or not the remedial action required has been satisfactorily completed in the time-frame specified. Therefore, it is the responsibility of the safety assessor team to programme time to carry out follow-up activities with the rail participants that have been assessed. This may require closure verification assessments (CVA) on site to confirm that non-compliance conditions subject to remedial action have been cleared.

Section 44 allows the Director to grant an extension of time by written notice to enable remedial action to be completed as long as the Director is satisfied that reasonable progress is being made and that interim conditions are ensuring safety. Otherwise section 43(2) applies and it is not lawful for the rail participant to continue the rail activities for which remedial action was required.

4.4 Costs of safety assessments

Land Transport NZ is responsible for paying the costs of safety assessments but may recover the costs from rail participants.

The length of time to conduct an ordinary assessment is not defined but will be discussed and agreed with the rail participant as part of the assessment planning process.

If an assessor has to spend a lot of time checking, advising and commenting in extreme detail it could be potentially expensive. On the other hand, if a clear and well set out safety case and safety system has been prepared by the management and there is clear evidence that standards are being met then the audit could be carried out more effectively at lower cost.

A clear financial incentive therefore exists for rail participants to have a concise and appropriate safety system in place to competently maintain standards and to keep records and other information up to date.

5 Conclusion

Carrying out systematic safety assessments as detailed above is a comprehensive way of determining a rail participant's compliance with its safety system and the quality of its safety case.

Assessment results, the reporting of key performance indicators by the rail participant and the outcomes achieved by the risk control measures that are detailed in the safety case, will determine the overall safety performance of the rail participant. The safety assessors, on behalf of the Director, will be able to use this information to agree the appropriate assessment scope and frequency for future ordinary assessments. This will be discussed with the rail participant and may result in amendments to the safety case regarding the agreed safety assessment process referred to in section 30(1)(i) of the Act.

A flow chart showing the processes associated with carrying out an ordinary safety assessment follows.

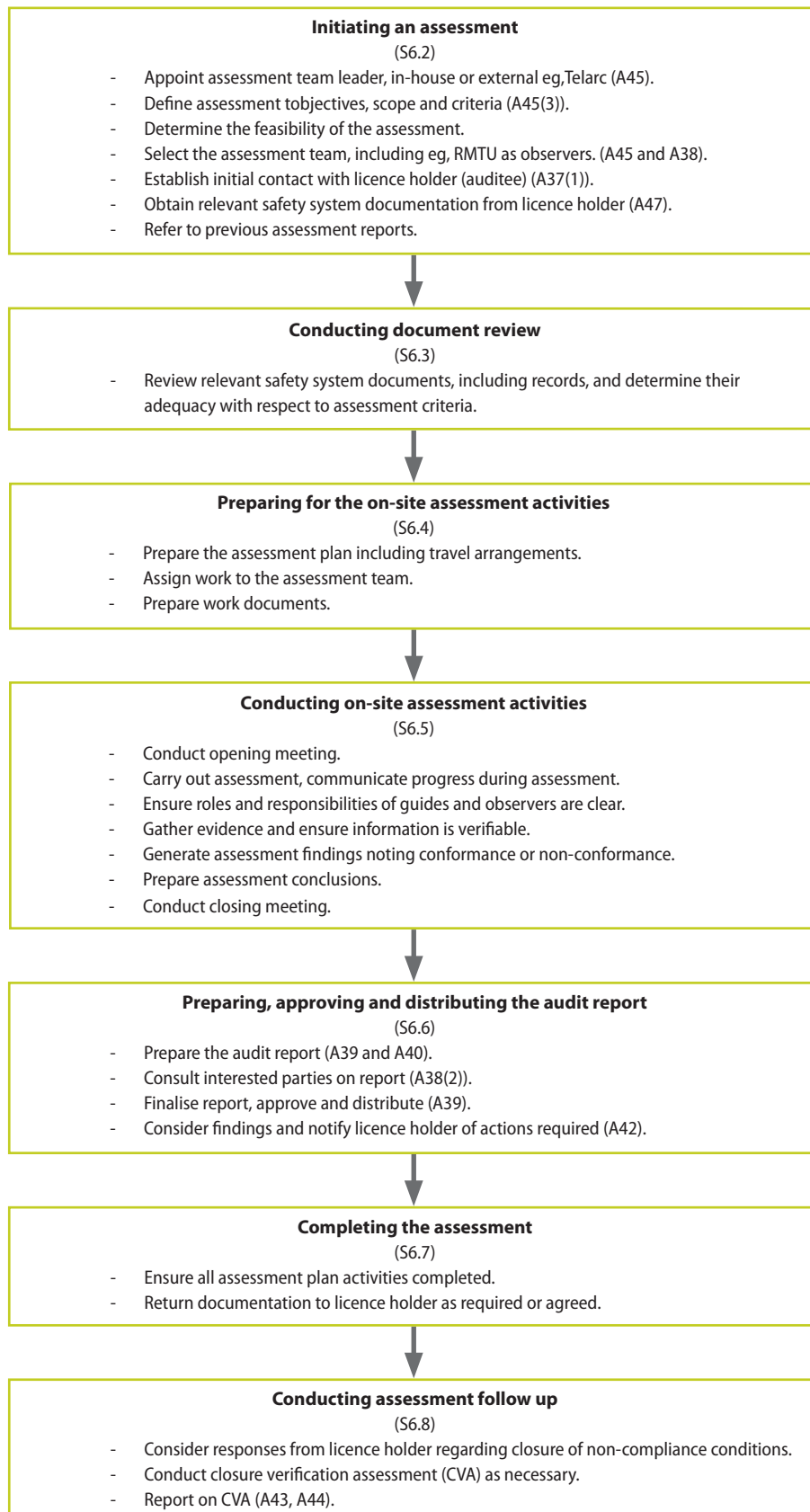
Safety assessments (audits)

Process flow chart: Conducting an ordinary assessment (audit)

References:

(S) Standard: *AS/NZS ISO 19011:2003 Guidelines for quality and/or environmental management systems auditing*

(A) Legislation: *Railways Act 2005*



B. Land Transport NZ's 14-point safety assessment plan

Refer also to the safety case and safety system information included in Appendix 1, the *Railways Act 2005* requirements and the flow chart above.

Safety assessments are essentially an assessment or audit of safety performance and compliance with the documented and approved safety case and underlying safety system. Proper audit principles should always be followed, but as a minimum, safety assessors should ensure that the following points are covered by the ordinary safety assessment cycle.

Typical safety assessment issues are listed, but this is by no means an exhaustive list and safety assessors are responsible for ensuring they give proper coverage to assessment of compliance with the documented systems.

Safety assessment reporting

1 Summary of compliance with safety case and safety system

Identification of the safety case and safety system is to be clearly made making reference to the issue version number and date of issue if possible. For complex safety systems with numerous documents, reference to the high level safety manual may also be appropriate. Reference should be made to national rail system standards (NRSS), if and when they apply.

There should be a clear statement as to whether the operator is in compliance with the approved safety case and the documented safety system, otherwise any areas of non-compliance are to be clearly reported and summarised. The report for this section can be in the form of a summary – it could note the rail participant is in compliance except for a 'list of non-compliances'. The detail of the non-compliances should be shown under the category headings. This section of the report therefore could form the basis of an executive summary.

Non-compliance conditions are where the rail participant is clearly not meeting or abiding by the requirements of their system. The conditions will be picked up under the category headings as detailed below, but these conditions are not just recommendations, it is mandatory that they be dealt with.

2 Land Transport NZ conditions and previous assessment or review conditions

There should be specific reference to any conditions imposed on the rail participant by Land Transport NZ or previous outstanding conditions resulting from findings and recommendations of previous safety assessments or reviews including coroner's inquest findings and recommendations. Follow up action/s on these are to be noted. Changes being proposed for implementation by the rail participant as safety system variations and requiring safety system amendment are to be documented.

Assessment findings/non-compliance conditions

For numbers 3–11 below, the assessment findings should clearly detail any non-compliance conditions so that they can be responded to by the rail participant. Each condition should be given a unique number for easy tracking that relates to the specific safety assessment carried out. For example, 2006-03/01 for the first condition of the March 2006 assessment.

3 Management and organisation

Consider high level management and organisational aspects and confirm whether or not they are in compliance with the documented systems.

Confirm that management review of the safety system and safety case are documented requirements and that the requirements are complied with.

Typical safety assessment issues.

- Are all responsibilities for the organisation clearly defined and assigned in the safety system documents including in position descriptions?
- Are the individuals concerned aware of their responsibilities?
- Do they hold, or have access to, the documents in which their responsibilities are defined?
- Do they accept the responsibilities shown? Is that confirmed eg, by their signature on the position description?
- Are management review policies in place and adhered to eg, regular review of performance at an executive safety meeting? Are standards and the system documentation reviewed regularly for appropriateness? Are audit and assessments reports reviewed by top level management? Is continuous safety improvement part of the organisational culture?
- Are changes being managed according to policy? Is the method for management of change and the reviewing of processes working effectively? Are proper risk assessments being carried out for changes?
- Is the safety system being updated and if this is reflected in the safety case due to significant change has the revised safety case been referred to Land Transport NZ? Note any significant safety system variations in the report.

4 Personnel, visitors and passengers

Confirm that resourcing, recruitment, succession planning, work skill training, safety observation and certification of personnel are in compliance with management policies.

Confirm that visitors and passengers are managed to ensure their safety.

Typical safety assessment issues.

- Is personnel resourcing adequate to cover work load or are hours worked by individuals excessive and not in compliance with policy?
- Are other personnel policies relating to personal health and safety of individuals being complied with?
- Are medical standards and training requirements clearly defined and adhered to?
- Are there clear requirements for those involved with the operation regarding alcohol and drugs and other impairment? Are the policies actively enforced?
- Are appropriate training systems in place for safety critical jobs eg, locomotive drivers, shunters, those who work on air brake equipment?
- Are you able to verify that individuals have received their specified initial training, safety observations and re-assessment from the training records?
- On operations that use volunteer labour, is there a satisfactory system that ensures volunteers only carry out duties for which they are competent?
- Are appropriate qualification and experience requirements specified?
- Is there a site safety plan? Is it part of the safety system or is it referenced from it? Are visitors inducted onto the site and made aware of hazards as per the plan?
- Are opportunities for rail personnel participation in improving health and safety functioning effectively as defined by policy? For example, are health and safety committees meeting regularly and dealing effectively with issues?
- Are requirements for the use of high visibility and protective clothing clearly specified?
- Did you observe compliance as you walked round the site?
- Are visitors (such as safety assessors) asked to comply with requirements for high visibility and protective clothing?
- Are passengers properly informed about safety matters? Are special needs passengers catered for?
- Is signage clear?
- Are trial evacuations carried out regularly according to the emergency response policies?

5 Mechanical safety

The assessment should include specific comment regarding safety-critical items relating to locomotives, rolling stock and other mechanical equipment. See typical engineering related assessment issues below.

6 Infrastructure

There should be specific comment regarding safety-critical items relating to track, bridges and other infrastructure. See typical engineering related assessment issues below.

Typical safety assessment issues.

A number of safety assessment issues are common to all engineering disciplines – others are more specific.

General.

- Have credible processes been used to determine standards?
- Have standards, etc been adopted from another organisation? If they have, are conditions comparable?
- How is compliance with specified requirements demonstrated and is compliance being achieved?
- Are there clearly defined responsibilities for design approval and are they followed?
- Are there clear procedures for the safe operation of all plant and equipment? Is it being inspected and maintained as specified?
- Are calibration requirements specified for instruments, gauges, etc whose accuracy is important?
- Are the accuracy levels specified credible (both over the part of range which matters, and in terms of accuracy itself)?
- Can calibration be traced back to a credible standard?
- Can calibration, in line with procedures, be demonstrated?
- Are drawings and related records amended to match 'as built' condition?
- Is such corrected information available to the people who need it?
- Are dangerous goods clearly identified?
- Do procedures for their transport/storage/handling meet legal requirements and is there compliance?
- Are fuels, solvents, etc kept in an appropriate dangerous goods store?

For track, formation, bridges and structures.

- Are programmed inspections and maintenance activities completed to programme and clearly recorded?
- Are procedures in place for inspections after earthquakes and other adverse situations?
- Do records demonstrate these procedures are followed?
- Are procedures in place for specialist testing methods and for the analysis of results eg, ultrasonic testing?
- Are emergency procedures defined and have they been subject to random test exercise?

For signalling.

- Are programmed check, tests, inspections and maintenance activities completed to programme and clearly recorded?
- Are there procedures covering alterations to systems which are in service, including methods of ensuring safety during the alterations, testing and commissioning?
- Are responsibilities for design variation, checking, testing and commissioning clearly defined?

For electric traction.

- Are programmed check, tests, inspections and maintenance activities completed to programme and clearly recorded?
- Are effective safety awareness programmes in place for staff, public, and emergency services, etc?
- Are there effective procedures for non-traction staff to work safely close to overhead wiring for maintenance, etc including in emergencies?

Mechanical general.

- Are requirements for check/tests/inspections specified for standard, content and frequency and is the level of compliance reported? Reports should include sighting of necessary inspection reports, certification, audit sampling, etc – eg, are tyre profiles specified and monitored?
- Have all necessary maintenance issues noted at inspection been completed?
- Are all specified maintenance schedules and requirements being complied with?
- Have any fleet additions, major overhauls and upgrades occurred resulting in safety system and safety case variations?
- If applicable, are engineering inter-operability standards such as NRSS/6 being complied with?

For locomotives.

- Have all boilers been examined and certificated by an approved inspector?

For passenger cars.

- Has every operational passenger car been inspected by an approved inspector and confirmed to be fully compliant with the operator's safety system standards regarding passenger safety fixtures and fittings eg, gangway handrails?

For road/rail and road vehicles.

- Are all road/rail (hi-rail) vehicles being used in compliance with the standards?
- Does the safety system define which road vehicles may be used to move rail vehicles, and under what conditions, and who may drive them? Is this being complied with?

For service and maintenance vehicles.

- Are these vehicles being inspected and maintained to required standards?
- Can all lifting equipment, slings, strops etc be shown to have been tested in accordance with regulations?
- Is it clear which equipment is in use, or likely to be used, and for what purpose?

7 Emergency management, accidents, incidents and other occurrences

There should be specific comment regarding the correct reporting of all accidents and incidents including notification to Land Transport NZ and DOL as appropriate. The assessment should comment on whether appropriate action is being taken by the rail participant to address the causes of any such occurrence (reportable or otherwise) and ensure the possibility of repeat occurrences is minimised. Additionally, there should be comment regarding compliance with emergency response documentation including proof of regular testing of procedures.

Typical safety assessment issues.

- Are there clear instructions available to all relevant rail personnel? This must cover the immediate response to occurrences and contact with emergency services.

- Verify that rail personnel know how they report an accident or incident.
- Do the relevant people have contact details for Land Transport NZ and DOL?
- What if an accident occurs in the absence of the person normally responsible for reporting – for example outside normal working hours?
- Ask staff if there have been any accidents or incidents and check records and look for follow-up action.
- Are all occurrences recorded and causes identified and analysed?
- Is the crisis management plan exercised by way of trial emergencies regularly?

8 Rail operations

There should be specific comment that the operational procedures, as set out in the safety system, are being complied with to ensure the safe working of trains.

Typical safety assessment issues.

- How is compliance with procedures demonstrated and is compliance being achieved? Has compliance with procedures been maintained at a high level with minimal occurrences?
- Are there satisfactory procedures for train control with signalling and/or communication equipment inoperative?
- What effect would radio failure or blind spots have? Is this being tested?
- Are there satisfactory procedures for the safe operation of road/rail vehicles, motor trolleys, and similar?
- Are there satisfactory procedures for work on track or infrastructure that require the passage of trains to be blocked or which can be carried out between trains?
- Are dangerous goods, if transported, clearly identified?
- Do procedures for their transport/storage/handling meet legal requirements and is there compliance?
- Are there adequate procedures for safe working practices for shunters and drivers and remote control operation if applicable? Are they complied with eg, safe riding positions being used properly?

9 Interface with other operators

Typical safety assessment issues.

- Verify inter-operability procedures are complied with when operating on the national network.
- Confirm access agreements and common access terms are complied with where applicable.
- Verify joint operating procedures are in place for industrial sidings. Are they all signed off by joint parties where applicable and are the procedures complied with by all parties?
- What happens if another operator's vehicle is damaged? How is condition/suitability of other operators' vehicles verified? See also Mechanical safety on page 43.
- Are there satisfactory procedures for the operation of inter-change sidings?
- What happens in an industrial operation, if the only locomotive fails? How do operations continue and is this allowed for by the system?

10 Document control and system review

Confirm that document control procedures are in place and working and that review of the system is occurring as required by defined management policies.

Typical safety assessment issues.

- Is it easy to identify the version number and date of issue of the safety system documentation?
- Can amended sections of the safety system documentation be readily identified?
- Do rail personnel have easy access to copies of the safety system documentation relevant to their jobs eg, operations codes
- Are rail personnel familiar with the parts of the safety system which concern them?
- Are storage methods, retention and disposal times clearly specified for records?
- How are computer records backed up?
- Are the records you ask for easily located and readily available?
- Have the documents been reviewed, updated and signed off as required?
- Are there records showing that a high level management review has occurred as required? (See also Management and organisation on page 42.)

11 Risk management

Comment on the risk management policies and methodologies applied and whether they are being fully complied with or not.

Typical safety assessment issues.

- Are policies appropriate, do they meet requirements of legislation and are they well deployed throughout the organisation?
- Are key risks assessed, documented and reviewed regularly?
- When were the hazard identification and risk analysis last up-dated?
- It is difficult to assign a frequency in risk analysis to an event that occurs rarely, but do the frequencies shown seem credible? How do they match historical experience?
- Are the hazards staff tell you about included?
- Is there provision for staff to contribute to hazard identification?
- Are all the potential hazards you can identify addressed?
- Do the procedures shown in the risk analysis to control risk match your observations of what actually happens? Are they included in the safety system?

12 Safety assessment and internal audit

Confirm that there are satisfactory procedures in place to manage the safety assessment programme for continuous improvement including the outputs from both Land Transport NZ external assessments and internal audits. See also management of previous conditions and reviews on page 42.

Typical safety assessment issues.

- Are the plans for regular internal audits sufficiently comprehensive to cover all significant aspects of the operation?
- Are non-compliance conditions and recommendations from external safety assessments and regular internal audits followed up and implemented in a timely manner? How much follow up is necessary from the safety assessor or auditor to make this happen?
- Are there clear records of the safety assessments and audits including the findings, non-compliances and recommendations. Are there clear records of the follow up action taken?

Report on any outstanding issues from previous safety assessments, audits, reviews, inspections, occurrences, etc.

13 Recommendations

In addition to any commentary and detail of non-compliance, the safety assessor may make any recommendations or suggestions to improve the safety of the rail activities of the rail participant. These should have been discussed with the rail participant at the time of the safety assessment.

14 Rail participant response

Safety assessors are to ensure that those people consulted at the time of the assessment (including rail participants and representatives of rail personnel) have an opportunity to check the report for factual correctness through their liaison people before it is finalised. Once the report is finalised, rail participants are required to respond in writing to the report. They must advise what action they are taking to close out non-compliance conditions within what timeframe.

The rail participant must also advise whether or not the recommendations are accepted and what action will be taken within what timeframe to address those issues. If the rail participant does not accept the recommendations, reasons should be given to support the decisions or possible alternative actions should be suggested.

Appendix 4

Legislation affecting railway operations

In addition to the *Land Transport Act 1998* and the *Railways Act 2005*, the following legislation may have implications for rail service operators and auditors.

Companies Act 1993

This Act will only apply to some operators. Registered company operators should note that the increased responsibilities and potential personal liability of directors under the *Companies Act 1993* would include ensuring company compliance with the approved safety case. Directors should also note their increased responsibilities under the *Railways Act*.

Electricity Act 1992

This applies to all railways/tramways using electric overhead power for their operation, and to the repair and maintenance of electric drive motors, electrical control systems and other appliances.

Accidents relating solely to electrical causes should also be reported under this Act to the Ministry of Commerce. Train operation accident and incident investigation jurisdiction remains with TAIC and Land Transport NZ.

Health and Safety in Employment Act 1992

This Act (administered by the Department of Labour) applies to the prevention of harm to all people at work, and to other people in the vicinity of a place of work. It applies to situations where volunteers work with paid staff but does not entirely apply to fully volunteer operations.

In general terms, it is reasonable to regard the site of a volunteer group's restoration or operating project as a workplace, with sensible and practical safety rules and practices applicable. Operators may wish to refer to health and safety in employment legislation to cover good workplace practice irrespective of their staff being volunteers.

Safety management systems for complying with this Act should be fully integrated with those systems for complying with the *Railways Act*. Refer to appendix 5 for further information.

Public Works Act 1981 (part 14)

This part of the *Public Works Act 1981* (Public Works Act), which covers points like constructing and inspecting new railways, is still on the statute books. Its role has been effectively taken over by the *Railways Act*, and this part of the Public Works Act is no longer relevant. It is intended that this part be repealed from a date to be set in regulations.

Railways Corporation Act 1981 (and Railways Corporation Restructuring Act 1990)

These Acts are, in part, relevant to operators who operate services on ONTRACK or Toll Holdings Ltd tracks, other than on industrial sidings.

Resource Management Act 1991

This is applicable to any organisation establishing a new railway, or proposing a significant change to existing operations in terms of expanding its route or area of operation. In particular, operators should be aware that local authorities have the power under this Act to impose limits on noise levels and emissions, such as smoke from steam locomotives. Operators should check with their legal advisors that their operations comply with local district scheme requirements.

Any operator involved with major route construction or maintenance may also wish to consider seeking authorisation as a *requiring authority* under the Act with respect to major projects.

Land Transport (Road User) Rule 2004 (issued under the Land Transport Act 1998)

This Rule affects the operation of any railway or tramway that occupies a public road as all or part of its route; and imposes obligations on road users at a road/rail crossing.

Land Transport Rule: Traffic Control Devices 2004 (issued under the Land Transport Act 1998)

This Rule specifies the signs and road markings that may be erected or installed at road/rail crossings.

Transport Accident Investigation Commission Act 1990, and TAIC Amendment Act 1992

This is the legislation (and its amendments) under which accidents and incidents on railways are investigated by the Transport Accident Investigation Commission (TAIC).

Trustees, office bearers of incorporated societies

Trustees and officers of incorporated societies should note that similar obligations to those imposed on company directors apply to them. These arise under the terms of the *Incorporated Societies Act 1908*, the *Charitable Trusts Act 1957* and common legal obligations imposed on persons acting on behalf of others.

Appendix 5

Summary of the *Health and Safety in Employment Act 1992*

The *Health and Safety in Employment Act 1992* (HSE Act) is about making work activities safe and healthy for everyone connected with them. It seeks to achieve that by recognising that:

- constructive employment relationships generate safe and healthy workplaces
- those involved in the work (employers, employees etc) are usually best placed to decide on the particular measures to make their own workplace safe
- the only sure way to do that is by systematic management of all hazards.

These principles are supported by specific requirements that:

- reinforce the primary responsibility as being that of the employer or other person responsible for the work
- acknowledge that employees and other workers also have responsibilities to themselves and others
- acknowledge that in bringing those two sets of responsibilities together, good faith and cooperation is required between employers, employees and other workers
- have the expectation that employee participation in health and safety issues will bring to bear readily available knowledge on the issues.

The fact that the primary obligation to make the work environment safe and healthy rests on the employer does not diminish the responsibility of other persons to do what they reasonably can to also make the work safe and healthy.

The Act does not set out to tell people how to make particular work situations safe and healthy. Rather, it requires them to approach that aim systematically but with flexibility, and with the ability to draw on information in codes of practice, best practice guidelines and the knowledge and experience of those involved in the work.

The standard to be achieved is that of having taken all practicable steps to make work safe – what can reasonably be expected given the circumstances, the state of knowledge, resources, etc. Employers and others are not required to deal with things that they couldn't possibly have known about or control.

Employers' duties

Employers have the most duties to perform to ensure the health and safety of employees at work. In particular, they are required to take all practicable steps to:

- provide and maintain a safe working environment
- provide and maintain facilities for the safety and health of employees at work
- ensure that machinery and equipment is safe for employees
- ensure that working arrangements are not hazardous to employees
- provide procedures to deal with emergencies that may arise while employees are at work.

Hazard management

Employers must have effective methods to identify and regularly review hazards in the workplace (existing, new and potential hazards). They must determine whether the hazards identified are significant hazards that require further action. If an accident or harm occurs that requires particulars to be recorded, employers are required to investigate it to determine if was caused by, or arose from, a significant hazard.

Where the hazard is significant, the HSE Act sets out the steps employers must take.

1. Where practicable, the hazard must be eliminated.
2. If elimination is not practicable, the hazard must be isolated.
3. If it is impracticable to eliminate or isolate the hazard, the employer must minimise the likelihood that employees will be harmed by the hazard.

Where the hazard has not been eliminated or isolated, employers must:

- ensure that protective equipment is provided, accessible and is used
- monitor employees' exposure to the hazard
- seek the consent of employees to monitor their health
- with their informed consent, monitor employees' health.

Information for employees

Before employees begin work, they must be informed by their employer of:

- hazards employees may be exposed to while at work
- hazards employees may create which could harm people
- how to minimise the likelihood of these hazards becoming a source of harm to themselves and others
- the location of safety equipment
- emergency procedures.

Employees should be provided with the results of any health and safety monitoring. In doing so, the privacy of individual employees must be protected.

Training of employees

Employers must ensure employees are either sufficiently experienced to do their work safely or are supervised by an experienced person. In addition, employees must be adequately trained in the safe use of all plant, objects, substances and protective clothing and equipment that the employee may be required to use or handle.

Employers to involve employees in the development of health and safety procedures

Employers need to ensure that all employees have reasonable opportunities to effectively participate in processes for improving health and safety at work.

Safety of people who are not employees

Employers also have a general duty towards persons who are not employees. Employers must take all practicable steps to ensure that the actions or actions of their employees (while at work) do not harm any other person, including members of the public or visitors to the place of work.

Persons who control a place of work must also take all practicable steps to ensure that customers are not harmed by any hazard in the place of work. Other authorised visitors must be warned about any significant, out-of-the-ordinary, work-related hazards.

Employees and self-employed persons' duties

Employees and self-employed persons have a responsibility for their own health and safety while at work. They must also ensure that their own actions or inactions while at work do not harm anyone else.

Volunteers

The HSE Act requires volunteers to be treated in the same way as employees where the volunteers do work (on an ongoing and regular basis), that is an integral part of the employer's business. There are some exceptions to this, including volunteers participating in a fund raising activity. The employer is not required to provide training for volunteers, nor do volunteers need to be involved in employee participation systems.

Contractors

Where contractors are engaged to do work, the person who engages them (the principal) must take all practicable steps to ensure that individual contractors and sub-contractors, and their employees, are not harmed by the work they are contracted to do or by any hazard in a place of work controlled by the principal.

Accidents and serious harm (recording and notification)

The HSE Act requires employers, self-employed persons and principals to keep a register of work-related accidents and serious harm. This includes every accident that harmed (or might have harmed):

- any employee or self-employed person at work
- any person in a place of work under the employer's control
- any person affected by the work of a self-employed person.

Employers, self-employed persons, and principals are also required to notify the Secretary of Labour (in practice, the nearest Department of Labour office) as soon as possible about every work-related accident that resulted in serious harm to any person. In addition, the accident must also be notified on the prescribed form within seven days.

If a person suffers serious harm, the scene of the accident must not be disturbed unless to:

- save life or prevent suffering
- maintain public access for essential services eg, electricity, gas
- prevent serious damage or loss of property.

The Department of Labour office will advise whether it wishes to investigate the accident and what action may be taken in the meantime.

Health and safety in employment regulations

The HSE regulations extend the provisions of section 6 of the HSE Act in relation to the provision of amenities such as toilets, washing and first aid facilities and the provision of sufficient, clean drinking water.

The regulations also place duties on employers in relation to specific hazards such as exposure to noise (regulation 11), work under raised objects (regulation 16), work at heights of over 3 metres (regulation 21), and scaffolding (regulation 22). Part VII of the regulations places specific duties on designers, manufacturers and suppliers of plant.

Other regulations have also been made under the HSE Act dealing (for example) with:

- asbestos
- cranes, boilers, pressure vessels and passenger ropeways
- mining
- petroleum pipelines.

Boiler inspections

Under the HSE *Pressure Equipment, Cranes and Passenger Ropeways Regulations 1999* and the supporting *Approved code of practice for boilers*, industrial boilers are required to be inspected annually. These inspections are external and internal.

As stated in the latest (and final) draft of *AS/NZS 3788: Pressure equipment – In-service inspection Appendix Y: Inspection of heritage boilers and pressure vessels*:

- 'Boilers, together with their fittings and attachments, shall be thoroughly inspected externally and internally on an annual basis' (Y2).
- 'Equipment, especially lagged items such as boilers, shall be housed when possible. Water ingress via chimneys and other sources shall be limited.'
- 'Inspection of such equipment shall only be undertaken by experienced and specially trained personnel who can exercise sound judgement' (Y1).
- 'As part of the inspection process it may be necessary to remove tubes where it is difficult to assess the condition of some tubes or the interior of the barrel' (Y5.3.1.4 Annual inspection).
- To satisfy the requirement quoted in Y1, inspections must be carried out by ('equipment inspectors' who are signatories to) IANZ accredited inspection bodies that are recognised by the Secretary of Labour under the HSE *Pressure Equipment, Cranes and Passenger Ropeways Regulations 1999*.

Further information

More information about the *Health and Safety in Employment Act 1992*, including a copy of the Act itself, a 140 page general guide to the Act, and other publications, can be found on the Department of Labour websites <http://www.osh.dol.govt.nz> and <http://www.workinfo.govt.nz>

The following documents are suggested as reference for small rail participant organisations:

Improving workplace safety and health for small business

<http://www.workinfo.govt.nz/Document.aspx?Doc=ACC1107-mar.pdf>

How to manage hazards for small business

<http://www.workinfo.govt.nz/Document.aspx?Doc=ACC1104-feb.pdf>

Training and supervision for small business

<http://www.workinfo.govt.nz/Document.aspx?Doc=ACC1106-mar.pdf>

Emergencies and incident investigation for small business

<http://www.workinfo.govt.nz/Document.aspx?Doc=ACC1101-feb.pdf>

Appendix 6

Licence application forms

Application for rail licence

The form on the next page; *Railways Act 2005 Application for Licence*, is to be completed by any new applicant and submitted with the safety case. Approval of the safety case submitted with this application will be required before granting of a licence and commencement of operations.





Railways Act 2005

Application for rail licence

To be completed and submitted to the NZ Transport Agency by applicants who wish to be: a rail operator/ an access provider/or a rail participant who is required by regulations to hold a licence.

This application form is issued in accordance with the Railways Act 2005, sections 15, 16 and 17.

This application form is to be completed and submitted to the NZ Transport Agency:

- before the commencement of any railway activity or the provision of railway infrastructure.

Name of applicant (and trade name if applicable)						
Class or classes of licence applied for (please enter an x in box as applicable)	Rail operator	<input type="checkbox"/>	Access provider	<input type="checkbox"/>	Other rail participant who is required to hold a licence	<input type="checkbox"/>
	<i>(Definitions as per Railways Act 2005, section 4 Interpretation)</i>					
Postal address						
Physical address						
Organisation manager	Name of manager					
	Title of manager					
	Daytime telephone number					
	Cell phone number					
	Email address					
Contact person	Name of contact person					
	Title of contact person					
	Daytime telephone number					
	Cell phone number					
	Email address					

Please provide (as applicable) a statement of your organisation's rail activities to include:

Location of operation

Length of track

Track gauge

Location and extent of train control activity

General description of operation

Please attach the following to this application

- A documented safety case completed in accordance with the Railways Act 2005, section 30
- Application fee payment (please refer to current fee schedule).

I certify that all the information contained within this application form is true and correct.

Name of applicant's representative

Date

Signature of applicant's representative

Privacy Act 1993:

The information you provide on this form is required to be collected under the Railways Act 2005 in order to process your application for a licence and for law enforcement.

The information is collected and held by the Rail Safety Team of the NZ Transport Agency.

Private individuals are entitled to access, and request correction of, any readily retrievable information about them held by the NZ Transport Agency.



When completed, this form (plus any required attachments) is to be sent to

Rail Safety Team, NZ Transport Agency
Postal address: PO Box 5084
Wellington
Email: Railregulation@nzta.govt.nz
Fax no: (04) 894 5098

An electronic version of this form is available on the NZ Transport Agency website: www.nzta.govt.nz

For NZ Transport Agency use

1. NZ Transport Agency file number
2. Rail licence number
3. Rail licence approved by
4. Date of approval
5. Peer review
6. Applicant and assessor notified

Appendix 7

Fees

Application fees and annual licence monitoring fees for rail licences.

Fees for auditor approval.

Fees for variations to safety systems.

Listed below are the fees payable under the previous regulations that remain in effect until replaced by a new fees regulation.

Fees payable for licence application	Fee
For every application for a rail service licence	\$117
For approval of a safety system	\$117 per hour, up to a maximum of \$10,000

Annual licence monitoring fee payable for type of rail service operated	Annual fee
1. Carrying 30,001 or more passengers per annum using motorised power on a railway network of less than 40 route kilometres	\$2,269
2. Carrying at least 10,001 but not more than 30,000 passengers per annum using motorised power on a railway network of less than 40 route kilometres	\$1,119
3. Carrying at least 1 but not more than 10,000 passengers per annum using motorised power on a railway network of less than 40 route kilometres	\$596
4. Carrying passengers using motorised power on a railway network of 40 route kilometres or more where the licensee's approved safety system relates only to the rail service vehicles operated	\$1,119
5. Carrying passengers using non-motorised power	\$233
6. Operating a rail service vehicle or vehicles carrying no passengers (except an operation referred to below)	\$233
7. Operating a rail service vehicle or vehicles from 3 or more industrial sites	\$2,269
8. Operating a rail service vehicle or vehicles from 2 industrial sites	\$1,119
9. Operating a rail service vehicle or vehicles from 1 industrial site	\$596
10. Operating a rail service vehicle exceeding 500hp at an industrial site	\$2,269
11. Operating a rail service or rail services on a railway network of 40 route kilometres or more where the licensee's approved safety system relates to the rail service vehicles operated and the operation of a network of railway lines	\$57.50 per route kilometre up to a maximum of \$300,000

Fees payable for auditor approval	Fee
For every application by an auditor to Land Transport NZ for direct appointment to the Land Transport NZ of rail safety auditors.	\$468
For every proposal for appointment of a rail safety auditor nominated by an operator.	\$468

Fees payable for variations to existing safety systems.	Fee
For consideration of application for variation of approved safety system where consideration takes less than 3 hours	Nil
For consideration of application for variation of approved safety system where consideration takes 3 hours or longer	\$117 per hour, for every hour spent up to a maximum of \$10,000
For every notified change in persons having control of a transport service Processing fee Vetting fee for each new person notified	\$6 \$28.20

All fees are GST inclusive.



Appendix 8

Land Transport NZ policy concerning the introduction of rail vehicles

1 Design standards

- 1.1. Historically, mechanical design standards were set within New Zealand Government Railways (formerly) and its successors. Toll Rail has in turn inherited much of the background information to these standards, and as the major network operator, has assumed the task of setting and maintaining the necessary standards. ONTRACK is now the owner of and access provider to the National rail system (NRS) and administers the National rail system standards (NRSS) which define minimum standards for operations on the network including mechanical inter-operability requirements.
- 1.2. In the co-regulatory approach of the Railways Act, Land Transport NZ has a role in ensuring that standards and processes are properly developed by rail participants using a risk based approach and that they are described in each safety case which Land Transport NZ approves. Compliance against those standards is monitored through the safety assessment programme. Further, Land Transport NZ has no statutory role in setting or maintaining standards as they belong to the industry, but it clearly has a responsibility for ensuring that standards and codes of practice provide reasonable safety outcomes and that safety outcomes show continuous improvements where appropriate.
- 1.3. Toll Rail railway vehicle design standards and procedures are prescribed in detail in its design manual (M3000), which Toll Rail considers to be a proprietary design code developed and controlled by its mechanical engineering professionals. This manual has been compiled with knowledge of the standards and practices from the Australasian Railway Association, the Association of American Railroads, combined with local practice and environmental requirements. The company believes that the manual would be accepted as good standard railway practice by railway engineering professionals throughout the industry. This manual is a key element of Toll Rail's safety system.
- 1.4. M3000 includes required minimum standards for structural strength (crashworthiness).
- 1.5. There are no other mechanical design codes currently applied in New Zealand on the 1068mm gauge NRS. However, other codes could be developed by other operators, and accepted by Land Transport NZ if due process is followed. A key issue would be acceptance through the NRSS executive who would present the alternative standards to Land Transport NZ for sign-off.

2 Ancestor rights

- 2.1. Toll Rail, Connex and other operators use a number of older vehicles which do not conform to the design and performance standards defined in Toll Rail's M3000 manual. Such situations are considered quite normal in any railway, as standards always continue to develop over the life of assets, which in the case of railway vehicles may exceed 50 years. A similar situation applies in other transport modes, where equipment meeting standards at the time of its construction is maintained to those standards and usually permitted to remain in use, despite subsequent changes to design and construction standards.
- 2.2. This is often colloquially referred to as the older equipment having 'ancestor' rights.

3 Continuous improvement

- 3.1. Land Transport NZ, in accordance with the Railways Act, will be seeking continuous improvement in the safety standards of the national rail fleet wherever it can be reasonably achieved.

4 Acceptance

- 4.1. Land Transport NZ's acceptance of new types of rail vehicles will generally be granted in two stages – (1) Type acceptance and (2) Operational acceptance.

5 Type acceptance

- 5.1. Prior to importation or construction, the operator under whose licence the rail vehicles are to be used, should seek agreement from the access provider (eg, ONTRACK for the NRS) that running rights can be granted, and they should seek a type acceptance from Land Transport NZ. The type acceptance will commit Land Transport NZ to accepting the rail vehicles for use in New Zealand for the purpose that is declared in the application, subject only to:
 - confirmation upon arrival that the rail vehicles conform to the details that were described in the application for type approval
 - subsequent operational acceptance being granted.
- 5.2. The application for the type acceptance must contain:
 - a general plan and description of the rail vehicles, showing the layout, dimensions, weights, and maximum allowable speed
 - the purpose for which the rail vehicles are to be used
 - description of where the rail vehicles are to be used
 - reference to the key safety-related standards and/or specifications to which the rail vehicles are or will be constructed and details to show how the vehicles will meet or exceed those standards (eg, body construction, brakes, drawgear, running gear, window glass, door mechanisms, fire prevention)

- sign-off from the appropriate access provider (eg, ONTRACK for the NRS) that the relevant operational and engineering inter-operability standards can be complied with and that running rights can be granted
- a comparative risk analysis that demonstrates that the rail vehicles are at least equal to, and preferably better than, other reasonably available alternatives
- for previously used rail vehicles, an outline of the previous history of the rail vehicles, including the name and location of the manufacturers, and previous operators if available
- a comparative analysis that shows that in meeting the standards and practices in comparable situations previously that the used equipment meets or exceeds current NZ standards
- an application for a variation to the safety case or safety cases of the rail participants concerned.

6 Operational acceptance

6.1. Operational acceptance, to approve placing the rail vehicles into normal service, will be given by Land Transport NZ after satisfactory evidence has been produced, or suitable inspections made, confirming that:

- the rail vehicles are in good mechanical condition for the intended operations
- the appropriate access provider has certified that the relevant operational and engineering inter-operability standards are being complied with
- all testing and commissioning has been completed satisfactorily
- the staff who will be operating, inspecting, and maintaining the rail vehicles have been trained appropriately.

6.2. Note that if type acceptance has not previously been granted, all matters pertaining to type acceptance will also have to be satisfied before an operational acceptance will be considered.

7 Previously used rail vehicles: additional policies

7.1. Previously used rail vehicles to be imported into New Zealand will not be considered to have any form of 'ancestor' rights in respect of their use in New Zealand. Effectively, they will be treated as a new application and considered on a case by case basis for type acceptance and operational acceptance. Once accepted, they may be used for the purpose for which they were imported by the licence holder who made application for their use in New Zealand.

7.2. Later, if they are to be used for any other purpose, or transferred to any other operator, Land Transport NZ will require that the rail participant concerned submit a new application to be considered for acceptance.

8 General

8.1. Land Transport NZ further reserves the right to undertake (at any time) a review or special assessment of any or all rail vehicles in accordance with the Railways Act should any event or set of circumstances arise that appear to affect the risk profile of the rail vehicles.

8.2. This policy is not intended to affect an access provider's right to set standards and conditions required for the safe operation of rail vehicles on the track controlled by that access provider. Those standards and the processes associated with their application, will be detailed in the access provider's safety system referenced by the safety case.

Appendix 9

Glossary

Terms used in this document are as listed in section 4 of the Railways Act, in particular those listed below with reference to sections of the Act as appropriate:

Access provider	In relation to a railway line, means the person who controls the use of that railway line by rail operators (including that person if it is also a rail operator), whether or not that person engages rail personnel to exercise or assist in exercising that control on its behalf; but does not include those rail personnel.
Accident	Means an occurrence associated with the operation of a rail vehicle or the use of railway infrastructure or railway premises that causes: <ul style="list-style-type: none">(a) the death of, or serious injury to, individuals(b) significant damage to property.
Director	Means the Director of Land Transport appointed under section 186 of the <i>Land Transport Act 1998</i> .
Incident	Means an occurrence, other than an accident, that is associated with the operation of a rail vehicle or the use of railway infrastructure or railway premises that placed, or could have placed: <ul style="list-style-type: none">(a) a person at risk of death or serious injury(b) property at risk of significant damage.
Licence	Means a licence granted under section 17 that is in force.
Licence holder	Means a person who: <ul style="list-style-type: none">(a) is required to hold a licence under section 15(b) was granted a licence under section 17.
Ordinary safety assessment	Means a safety assessment undertaken of all parts or any part of a rail participant's rail activities to enable the Director: <ul style="list-style-type: none">(a) to gain appropriate assurances that those rail activities will continue to be conducted safely(b) to determine the action that must be taken by the rail participant so that those assurances may be gained.
Rail operator	Means a person who provides or operates a rail vehicle, whether or not that person engages rail personnel to do so or to assist in doing so on its behalf; but does not include those rail personnel.
Rail participant	Means any of the following: <ul style="list-style-type: none">(a) an infrastructure owner(b) a rail vehicle owner(c) a railway premises owner(d) an access provider(e) a rail operator(f) a network controller(g) a maintenance provider(h) a railway premises manager(i) any other class of person prescribed as a rail participant by regulations.
Rail personnel	In relation to a rail participant, means an individual engaged by the rail participant or by an agent or contractor of the rail participant, whether as an employee, agent, contractor, or volunteer, for the purposes of carrying out, or assisting in carrying out, rail activities of the rail participant.
Rail vehicle	Means any vehicle that runs on, or uses, a railway line. Includes: <ul style="list-style-type: none">(i) a locomotive, rail carriage, rail wagon, railcar, light rail vehicle, rail maintenance vehicle (whether or not self-propelled), and any other vehicle prescribed as a rail vehicle by regulations(ii) a vehicle designed to operate both on rails and off rails, but only when that vehicle is running on rails.

Railway	<p>Means the railway infrastructure, rail vehicles, and other property (other than railway premises), including property specified by regulations made under section 59(j) and vehicles prescribed under section 59(k), that together are being used for the purpose of transporting people or goods by rail; but excludes:</p> <ul style="list-style-type: none"> (a) a railway used as an amusement device as defined in section 21(A)(1) of the <i>Machinery Act 1950</i> (b) a railway that operates on a set of rails with a gauge of less than 550 mm between them, unless that set of rails is designated as a railway line under section 59(l) (c) a railway that operates on a railway line excluded by regulations made under section 59(m) (d) a private cable car.
Railway line	<p>Means a single rail or set of rails, having a gauge of 550 mm or greater between them, laid for the purposes of transporting people or goods by rail.</p> <p>Includes:</p> <ul style="list-style-type: none"> (i) sleepers, associated formation and ballast, tunnels, and bridges (ii) in relation to a single rail or set of rails that are laid on a road for the purposes of one or more light rail vehicles: <ul style="list-style-type: none"> • any area between the rails • the area that extends 500 mm outside the extremity of any light rail vehicle being used on that single rail or set of rails. (iii) a set of rails, having a gauge of less than 550 mm between them, that is designated as a railway line in regulations made under section 59(l) (iv) except as provided in subparagraph (ii), any area within 5 m of a single rail or within 5 m of a line drawn midway between a set of rails. <p>Excludes:</p> <ul style="list-style-type: none"> (i) a railway line that is part of a railway used as an amusement device as defined in section 21(A)(1) of the <i>Machinery Act 1950</i> (ii) a railway line excluded by regulations made under section 59(m) (iii) a railway line that exclusively serves private cable cars.
Safety assessment	Means an ordinary safety assessment or a special safety assessment.
Safety assessor	Means a person appointed as a safety assessor under section 45.
Safety case	Means a document that contains the information specified in section 30.
Safety improvement plan	Means a plan required to be prepared under section 36.
Safety system	In relation to a rail participant, means a written record of all the rail participant's management and operational policies and practices that relate to the safe conduct of its rail activities; and includes the rail participant's operational and training manuals.
Special safety assessment	<p>Means a safety assessment undertaken of all parts or any parts of a rail participant's rail activities when the Director believes, on reasonable grounds, that:</p> <ul style="list-style-type: none"> (a) those rail activities could cause: <ul style="list-style-type: none"> (i) the death of, or serious injury to, individuals (ii) significant damage to property. (b) there is a need for an early determination of the nature and extent of the action that the Director would require the rail participant to take to mitigate that risk.
TAIC	Means the Transport Accident Investigation Commission established under section 3 of the <i>Transport Accident Investigation Commission Act 1990</i> .

Our contact details

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